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PROCEDURE TRAINING AID FOR THE SH-3D/H NORMAL START CHECKLIST.(U)
FEB 82 R BRABY, P G SCOTT

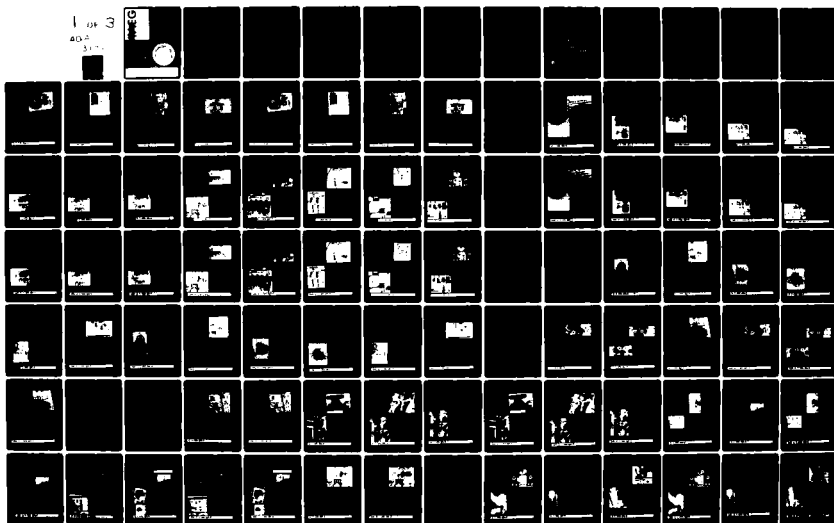
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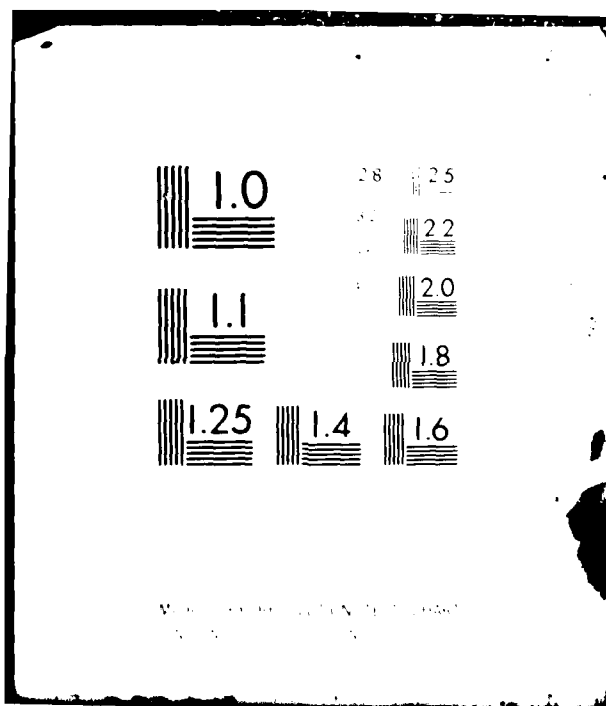
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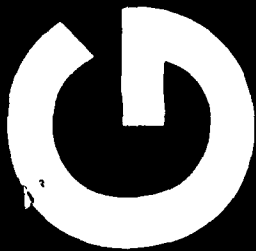
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TRAINING
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TECHNICAL MEMORANDUM 82-1

(21)

**PROCEDURE TRAINING AID
FOR THE SH-3D/H
NORMAL START CHECKLIST**

FEBRUARY 1982

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TRAINING ANALYSIS AND EVALUATION GROUP
ORLANDO FLORIDA 32813

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Technical Memorandum 82-1

PROCEDURE TRAINING AID FOR THE
SH-3D/H NORMAL START CHECKLIST

Richard Braby
Paul G. Scott

Training Analysis and Evaluation Group

February 1982

Sponsored by

Chief of Naval Education and Training

and the

David W. Taylor Naval Ship Research and Development Center
Naval Technical Information Presentation Program

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report presents a Procedure Training Aid for the SH-3D/H Normal Start Checklist. The intent of this report is to illustrate the scope and complexity of the varieties of information needed to document a procedure using the Procedure Training Aid format. The report documents the extensiveness of the graphic production required by the format. It also shows the complexity of the information that must be displayed to describe the procedure in enough detail to enable the students to perform.		

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INTRODUCTION

The Training Analysis and Evaluation Group (TAEG) was tasked by the Chief of Naval Education and Training to determine the training effectiveness of a new state-of-the-art flight simulator at Helicopter Antisubmarine Squadron One (HS 1), a Fleet Readiness Squadron, Naval Air Station, Jacksonville, Florida (Browning, McDaniel, and Scott (1981)). During the course of this program it became evident that improvements in procedures learning were indicated. Better ways were needed for student aviators to learn various cockpit procedures prior to practicing them in the synthetic ground environment (i.e., Device 2C44, cockpit procedures trainer, and Device 2F64C, flight simulator).

Accordingly, a procedure training aid was designed and constructed as an example of the type of material that could be used in HS 1 academic training to reduce the effort required by students in mastering complex cockpit procedures. The format for the procedure training aid carries out the learning guidelines for procedure learning tasks described in Aagard and Braby (1976). These learning guidelines were also included in the Interservice Procedures for Instructional Systems Development (NAVEDTRA 106A). This format was formally tested by Polino and Braby (1980) and was found to reduce practice time to proficiency when compared with traditional materials in a simple procedure learning task (calibration of an oscilloscope probe).

The Procedure Training Aid for the SH-3D/H Normal Start Checklist (contained in the appendix) represents the application of the format to a lengthy complex procedural task. In an experimental evaluation this training aid was compared with the traditional materials used by HS 1 for this task (i.e., the Instructional System Development Workbook) and was found to be significantly more effective for this purpose (Scott, McDaniel, and Braby (1982)).

The TAEG designed format was also selected for inclusion in the Navy's current Procedures for Instructional Systems Development (NAVEDTRA 110A). The format has also been accepted for inclusion in the Naval Technical Information Presentation System (NTIPS). This system is being developed for the Chief of Naval Material by the David W. Taylor Naval Ship Research and Development Center. The NTIPS will be a state-of-the-art publishing system for preparing the operator, maintenance, training and logistic support documents for new equipment.

To facilitate production of procedure training aids locally by subject matter experts, Terrell (1982) has produced guidelines and easy-to-follow directions.

PURPOSE

The purpose of this report is to provide designers of instructional material with the entire Procedure Training Aid for the SH-3D/H Normal Start Checklist. The intent is to illustrate the scope and complexity of the varieties of information needed to document a procedure using the Procedure

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Training Aid format. (In Scott, McDaniel, and Braby (1982) only selected pages of the training aid were offered as examples.) In terms of scope, this report documents the extensiveness of the graphic production required by the format. It also shows the complexity of the information that must be displayed to describe the procedure in enough detail to enable the students to perform.

The remainder of this report presents the Procedure Training Aid for the SH-3D/H Normal Start Checklist.

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REFERENCES

- Aagard, J. A. and Braby, R. Learning Guidelines and Algorithms for Types of Training Objectives. Technical Report No. 23, March 1976. Training Analysis and Evaluation Group, Orlando, FL 32813 (AD A023066).
- Browning, R. F., McDaniel, W. C., and Scott, P. G. Preparation and Design for a Training Effectiveness Evaluation of Device 2F64C for Replacement Pilot Training. Technical Report No. 108, 1981. Training Analysis and Evaluation Group, Orlando, FL 32813.
- Interservice Procedures for Instructional Systems Development, Phase III Develop. NAVEDTRA 106A, 1 August 1975.
- Polino, Anne M. and Braby R. Learning of Procedures in Navy Technical Training: An Evaluation of Strategies and Formats. Technical Report No. 84, 1980. Training Analysis and Evaluation Group, Orlando, FL 32813 (AD A084067).
- Procedures for Instructional Systems Development, NAVEDTRA 110A, 18 September 1981.
- Scott, P. G., McDaniel, W. C., and Braby, R. Improved Procedures Training Through Use of Aids Developed from Learning Guidelines. Technical Report No. 113, 1982. Training Analysis and Evaluation Group, Orlando, FL 32813.
- Terrell, W. R. A Guide for Preparing Procedure Training Aids. Technical Memorandum 82-2, 1982. Training Analysis and Evaluation Group, Orlando, FL 32813.

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APPENDIX

SH-30/H NORMAL START CHECKLIST

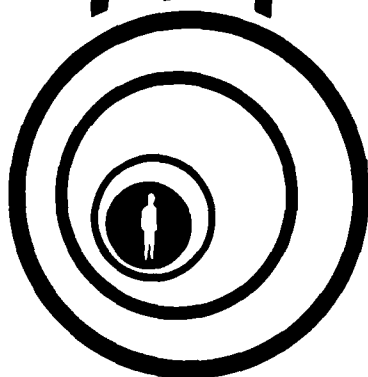
PROCEDURE TRAINING AID

NOTE: The Procedure Training Aid contained in this appendix retains its original page numbers. It has not been renumbered to conform to the page number sequence of this technical memorandum.

PROCEDURE TRAINING AID

SH-3D/H NORMAL START CHECKLIST

**...A LEARNING PACKAGE
FOR PILOTS IN TRAINING**



TRAINING ANALYSIS AND EVALUATION GROUP
ORLANDO, FLORIDA 32813

**RICHARD BRABY
PAUL SCOTT**

NAVAIR 01-230HLH-1C

SH-3D/H NATOPS PILOTS' CHECKLIST

NORMAL PROCEDURES

This checklist superseded NAVAIR 01-230HLH-1C dated 1 March 1977
and NAVAIR 01-230HLE-1B dated 1 December 1975

NORMAL START

1. Circuit Breakers and Switches. CHECK
2. Fuel Dump Switches OFF
3. Brakes and Tailwheel LOCKED
4. Battery Switch ON
5. External Power CONNECTED
6. Battery Switch OFF
7. Landing Gear CHECK
8. Drop Tank Switch Panel(SH-3H). CHECK
9. Start Mode Switch. AS REQUIRED
10. Blade Panel(Radios SH-3D),Hoist, Trim. CHECK
11. Torquemotor Switches OFF
12. Anti-ice CHECK AS REQUIRED
13. Ignition Switches. NORMAL
14. Accessory Drive Switch FORWARD, LIGHT ON
15. Manual Throttles, Speed Selectors. FREE AND OFF
16. Emergency Start and Override Switches. OFF
17. Rotor Brake. CHECKED(320 PSI MINIMUM)
18. Fire Warning, Caution, Advisory Panels CHECK
19. PMS Disable Switch(SH-3H). PULL
20. Fuel Panel/Quantity. CHECK
21. Battery Switch ON
22. Lights AS REQUIRED
23. No. 1 Engine START
24. All Gages. CHECK
25. Boost Pumps. OFF
26. Speed Selector 104% Nf
27. Generators ON
28. No. 1 Overspeed System CHECK
29. External Power DISCONNECTED
30. Compass System, Console Switches AS REQUIRED
31. RAD ALT, BAR ALT, RAWS SET AND TEST
32. Servo Sensor CHECK

Extracted from NAVAIR 01-230HLH-1C

INTRODUCTION

Learning Objective

When you complete this package
you will be able to:

1. describe each item in the NATOPS SH-3H Normal Start Checklist, using the checklist and the paper mock-up of the cockpit.
2. perform each item on the SH-3 Cockpit Procedures Trainer, without hesitation, error, or omission.

Why Learn This Procedure

NATOPS requires use of the Normal Start Checklist each time a normal No. 1 engine start is performed.

Resources Required

In addition to this booklet, you will need:

1. paper mock-up of the SH-3H cockpit.
2. NATOPS SH-3H Normal Start Checklist.
3. SH-3H Cockpit Procedures Trainer (used only in the final phase of lesson).

Cockpit Description

The SH-3H cockpit is divided into sections. Figure 1 shows the locations and names of the sections involved in the No. 1 Engine Normal Start Checklist.

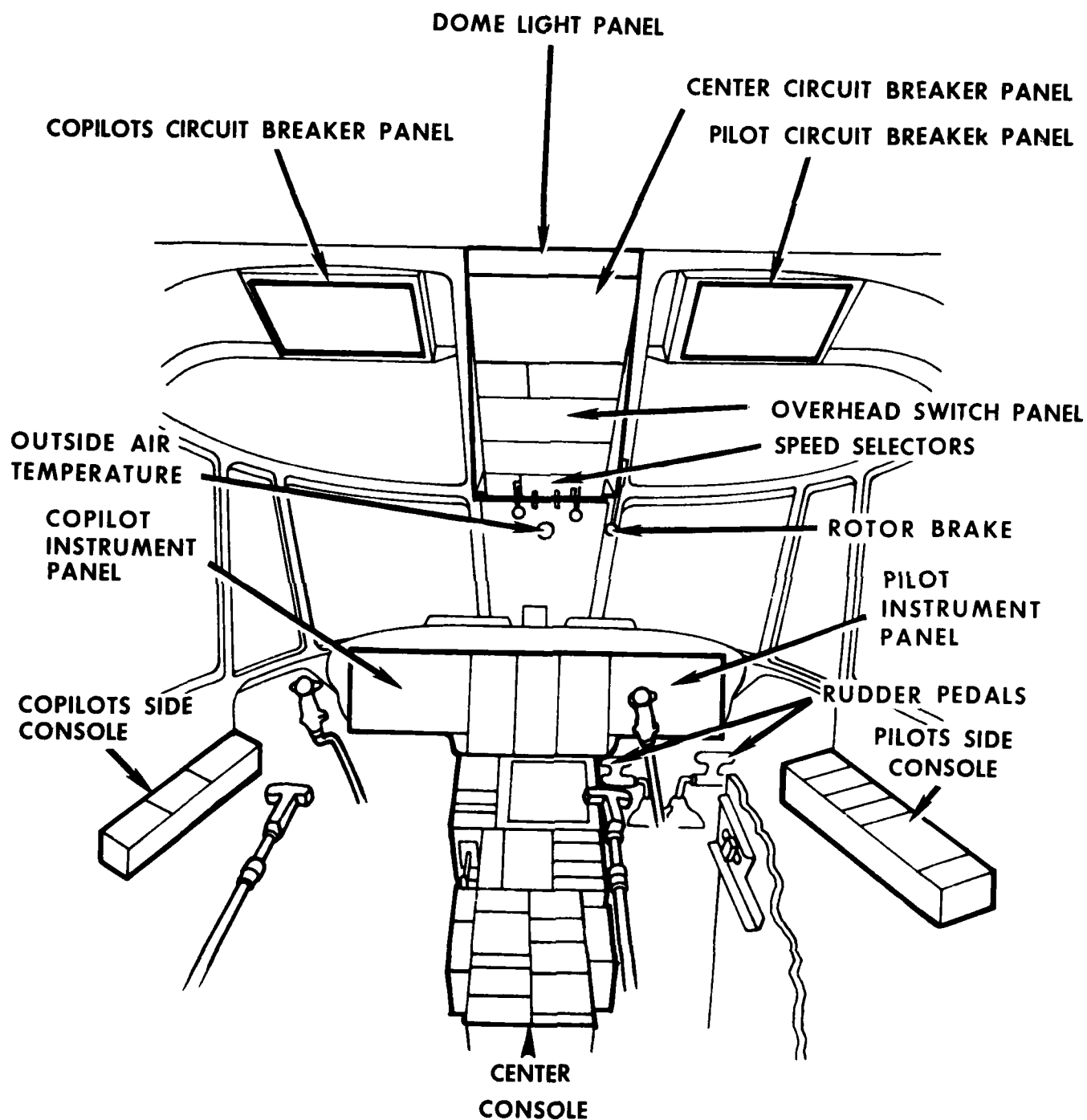


Figure 1

HOW TO USE LEARNING MATERIALS

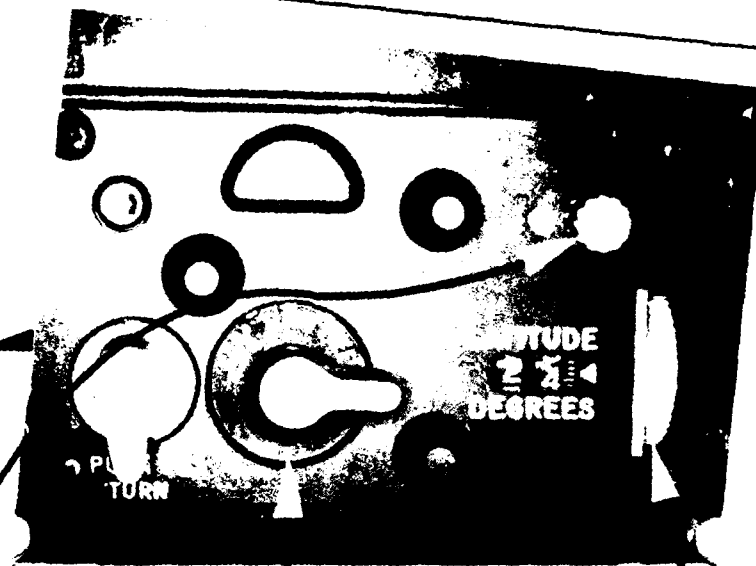
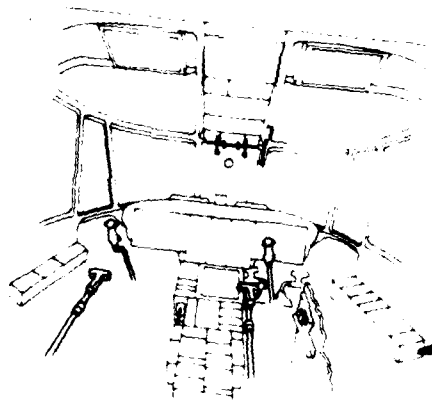
Directions

1. This lesson will be presented in a way that may be new to you. The following information will help you in completing it quickly and easily.
 - a. Each item in the NATOPS SH-3H Normal Start Checklist has been broken down into ACTION and RESULT steps.
 - b. If the performance of an ACTION step causes the system to do something you can observe (e.g., light a lamp), what the system does will be presented as a RESULT step.
 - c. If something can go wrong that requires corrective action by you, the symptoms and corrective action are described in an IF/THEN statement.
 - d. In addition, CAUTIONS, WARNINGS, MEMORY AIDS, and NOTES are presented where appropriate.
 - e. Each item in the checklist requires a VOICE RESPONSE when that item is completed.
2. Take your time and learn all of the steps of each item correctly and in sequence. The step boxes with directions are numbered. READ THEM IN ORDER and touch the locations on the paper mockup.
3. After each item you will be required to recall the ACTION and RESULT steps and the IF/THEN statements. You will also need to recall the CAUTIONS, WARNINGS, MEMORY AIDS, and NOTES and touch the locations on the paper mockup.
4. After each item state (verbalize) the VOICE RESPONSE.
5. For best results, follow all of the instructions.

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



PILOT

1. Action

Set Compass Control Mode switch to SLAVE

2. Action

Set latitude to current position

3. Action

Set hemisphere to N or S as appropriate

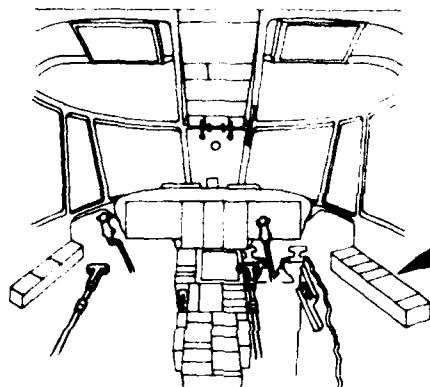
GO TO PAPER MOCK-UP :

STEP THROUGH ITEM

TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose: To verify that the circuit breakers are IN and switches are set as appropriate.



4. Action
Set Meter Selector switch to ASE
(counter clockwise)

5. Action
Set Vertical Gyr switch to PORT (up)

6. Action
Check 4 Hardover switches OFF
(covers down)

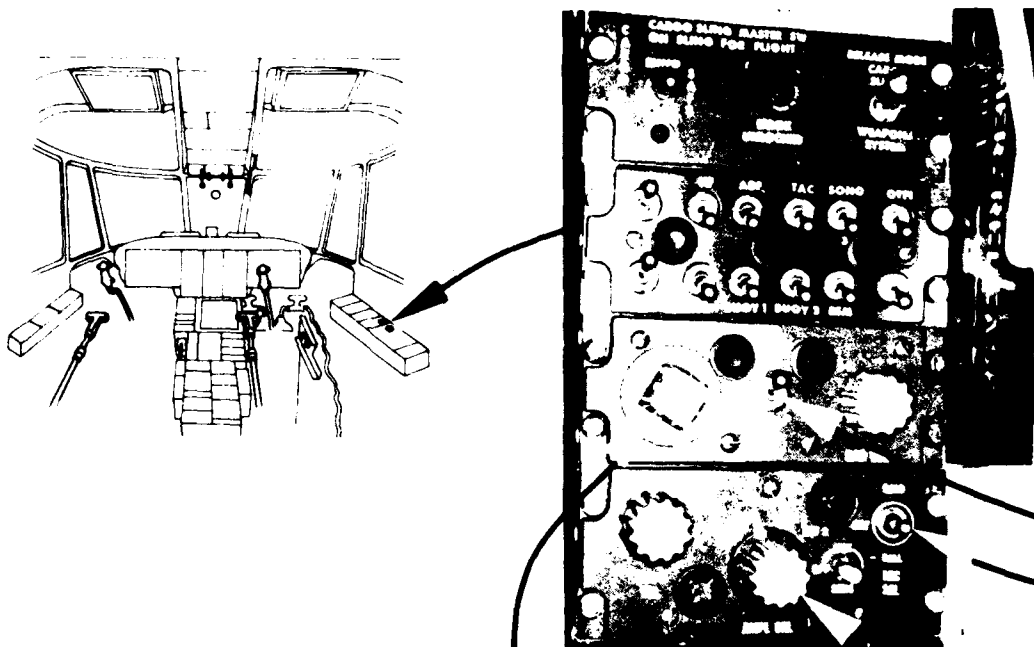
7. Action
Check 4 Channel Disconnect switches
to ON (up)

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



8. Action

Set ICS AMPL SEL mode switch to NORM

9. Action

Set ICS microphone selector switch to COLD

10. Action

Set radio transmitter selector switch as desired, usually 1 or 4 (1 for UHF1, 4 for VHF2)

11. Action

Set ICS switch on RAD panel to ON

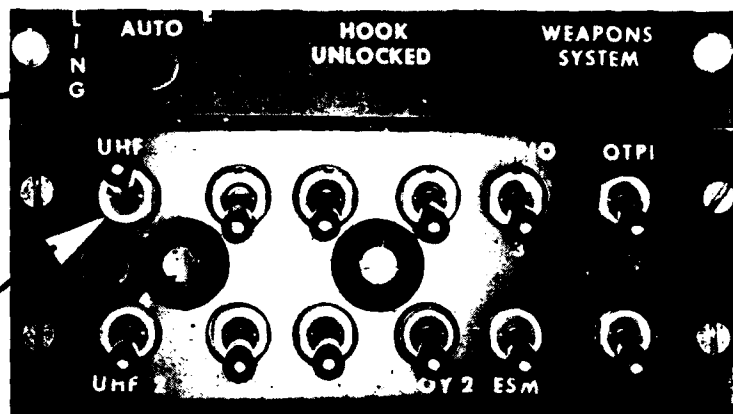
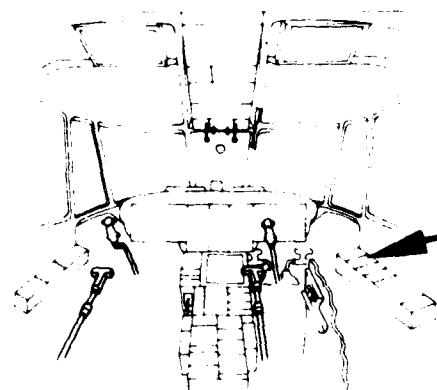
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



12. Action

Set mixer switches as desired.
Usually UHF 1 to ON (up)

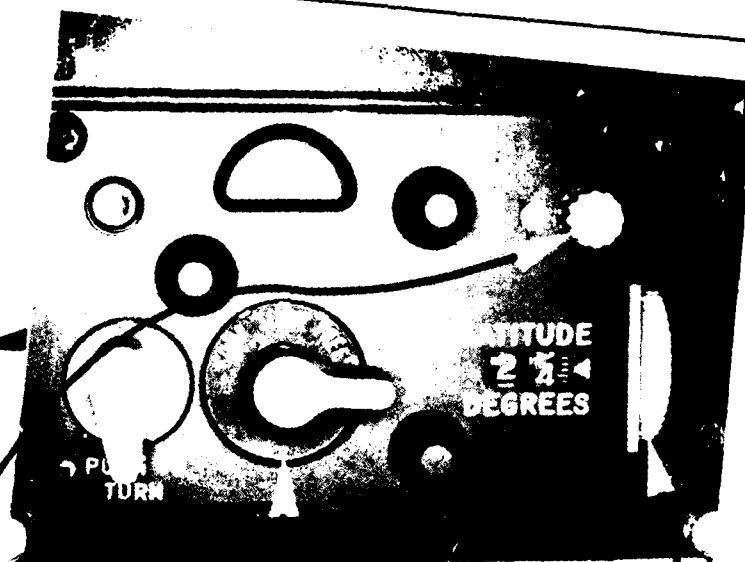
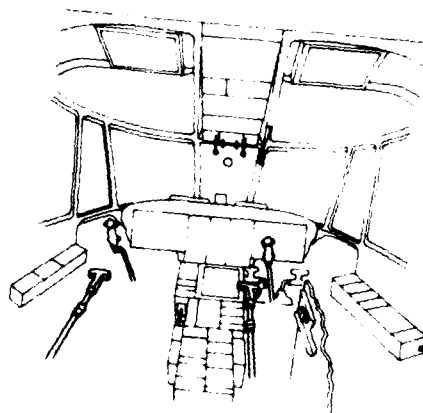
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



PILOT

1. Action

Set Compass Control Mode switch to _____

2. Action

Set latitude to _____ position

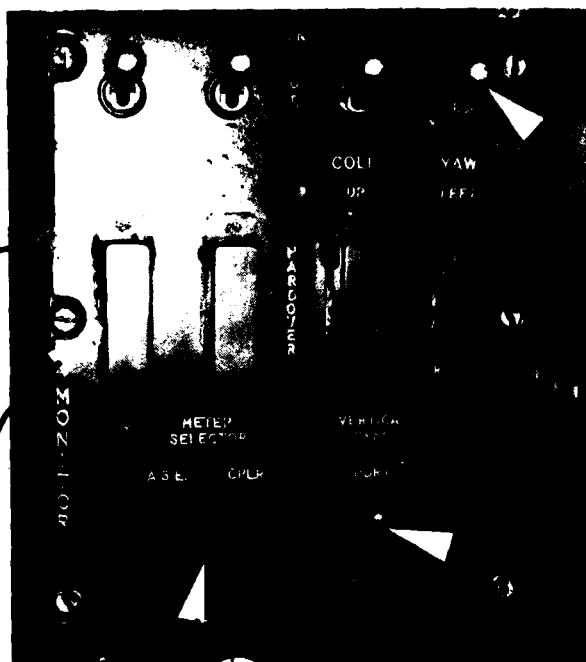
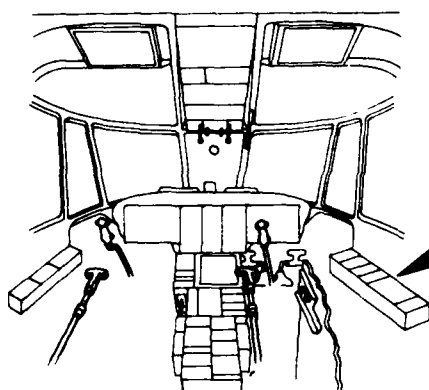
3. Action

Set hemisphere to _ or _ as appropriate

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK



4. Action

Set Meter Selector switch to ____
(____)

5. Action

Set Vertical Gyro switch to ____ (____)

6. Action

Check 4 Hardover switches ____
(covers ____)

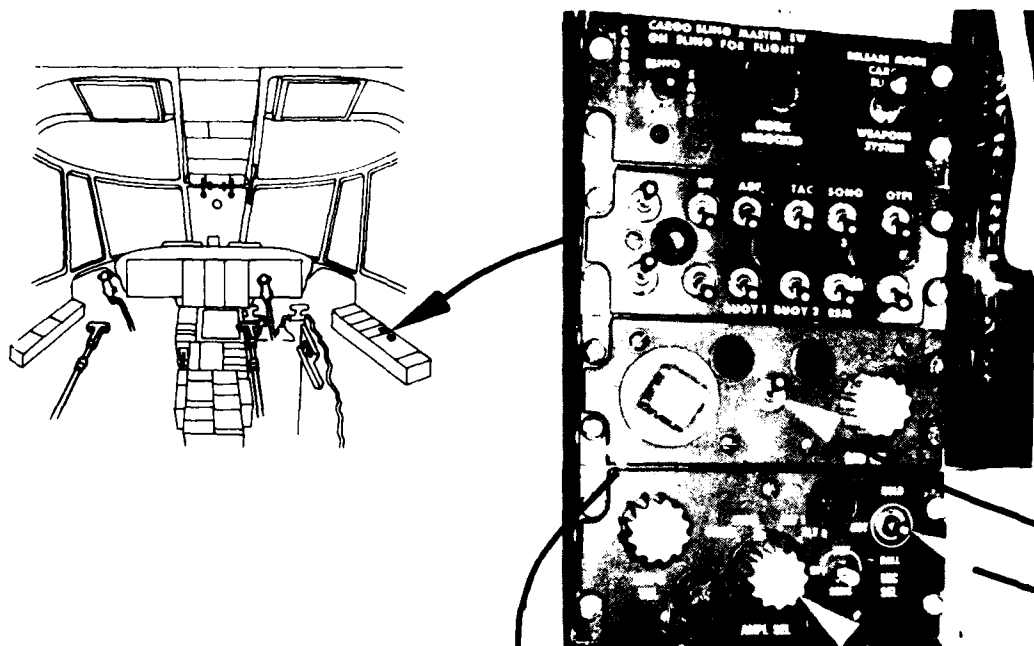
7. Action

Check 4 Channel Disconnect switches
to ____ (____)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK



8. Action

Set ICS AMPL SEL mode switch to _____

9. Action

Set ICS microphone selector switch to _____

10. Action

Set radio transmitter selector switch as desired, usually _____ or _____ (1 for UHF1, 4 for VHF2)

11. Action

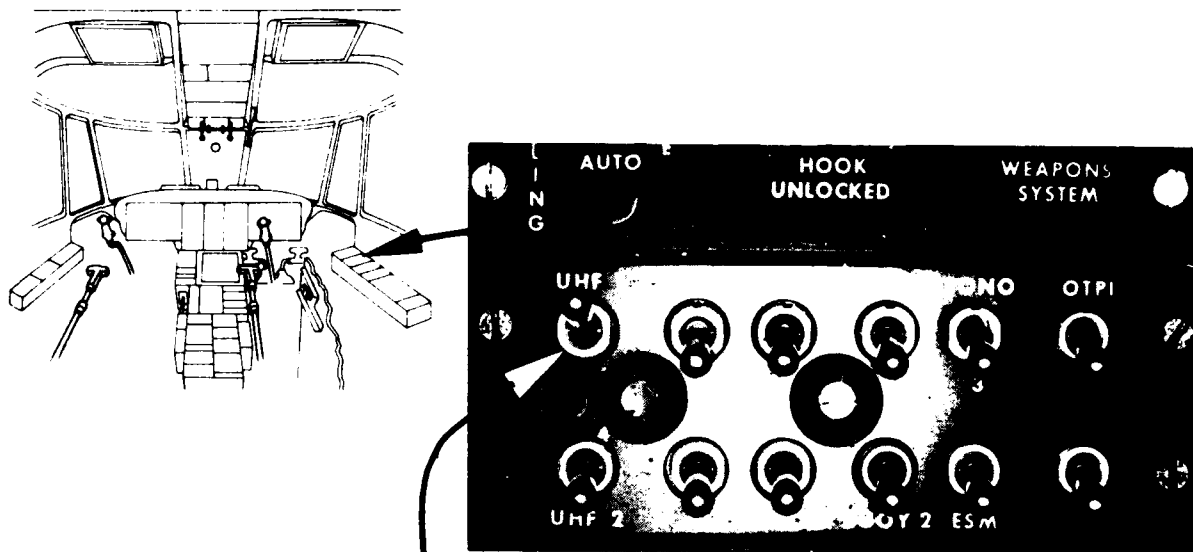
Set ICS switch on RAD panel to _____

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



12. Action

Set mixer switches as desired.
Usually UHF 1 to ()

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST (Steps 1 - 12)

State in your own words the Purpose

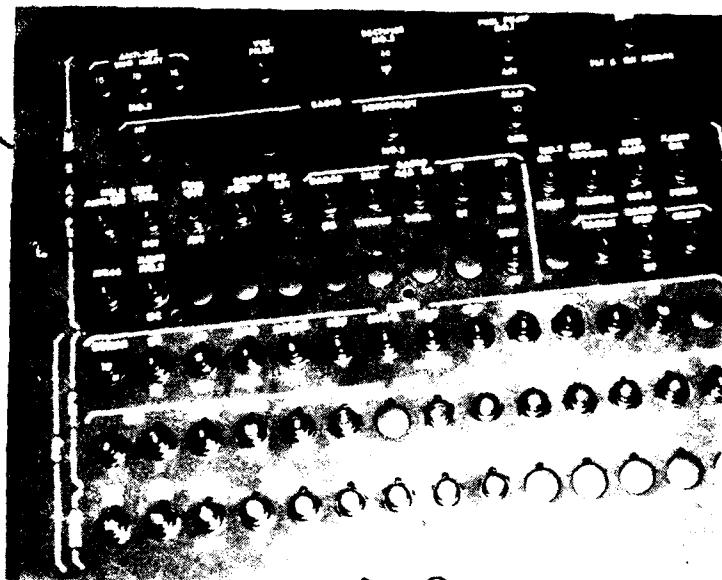
Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



13. Action

Check Pilot Circuit Breakers IN

14. Action

Check Center Circuit Breakers IN

15. Note

Pitot heat CB on Center Circuit Breaker Panel is normally found out. Reset if OUT. Mentally note which CBs were found out or red tagged

16. Note

Pilot to visually check copilot's circuit breakers IN

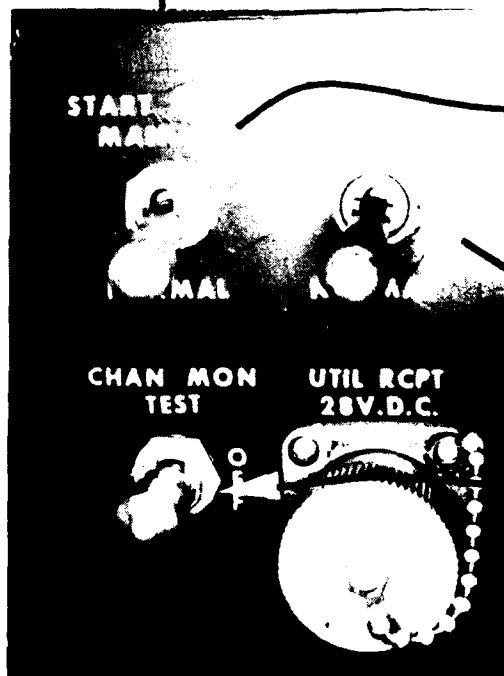
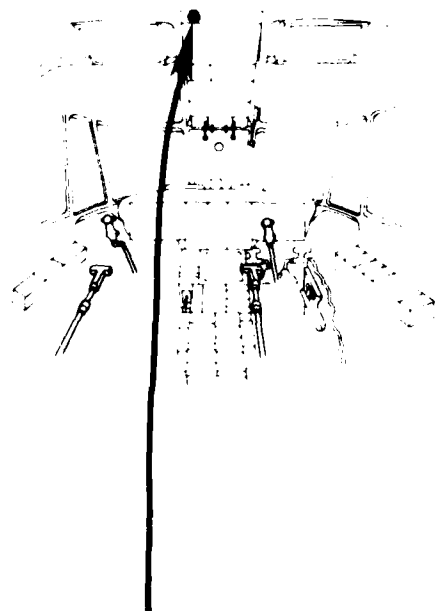
GO TO PAPER MOCK-UP

• STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



17. Action

Set START Mode switch to NORMAL

18. Action

Set UHF ANT SEL switch to NORMAL

19. Action

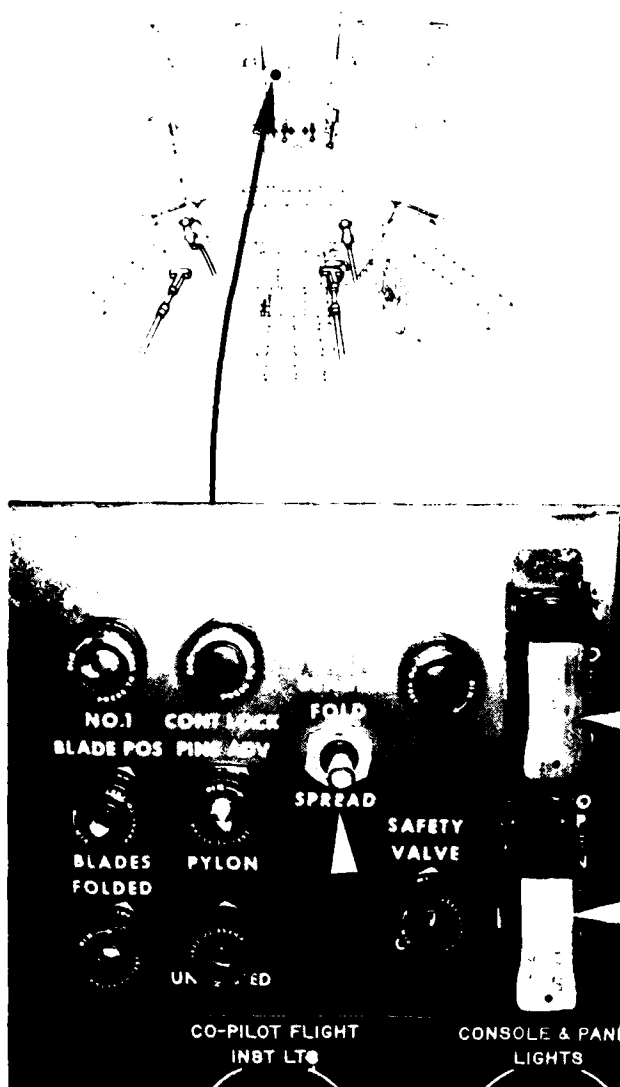
Set CHAN MON switch to OFF

GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose: To verify that the circuit breakers are IN and switches are set as appropriate.



20. Action

Set BLADE FOLD MASTER switch OFF, cover down

21. Action

Set BLADE FOLD SAFETY VALVE switch CLOSEC, cover down

22. Action

Set BLADES FOLD SPREAD switch to OFF, center position

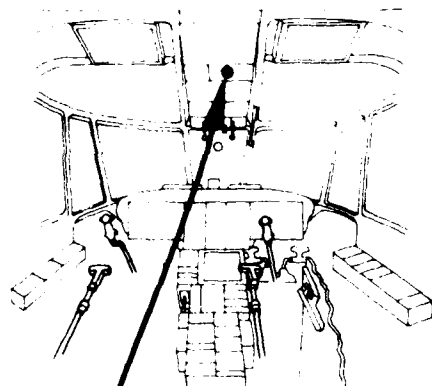
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



23. Action

Set WINDSHIELD ANTI-ICE switch to OFF, center position

24. Action

Set CABIN HEATER FAN switch to Off

25. Action

Set CABIN HEATER switch to OFF

26. Action

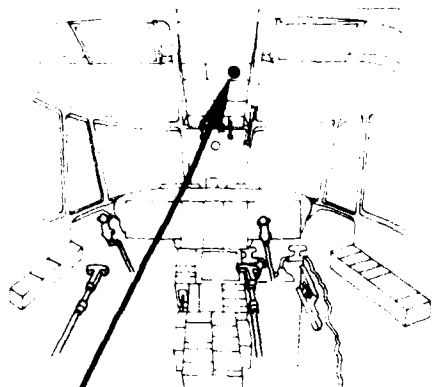
Set PITOT HEAT switch to OFF

GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose: To verify that the circuit breakers are IN and switches are set as appropriate.



27. Action

Set forward rotator light (FWD ROT LT) switch to OFF

28. Action

Set ROTOR HEAD LT switch to OFF

29. Action

Set STEADY - FLASH switch to STEADY

30. Action

Set MASTER SWITCH to OFF



GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



31. Action

Set SIDE POS switch to OFF

32. Action

Set TAIL POS switch to OFF

33. Action

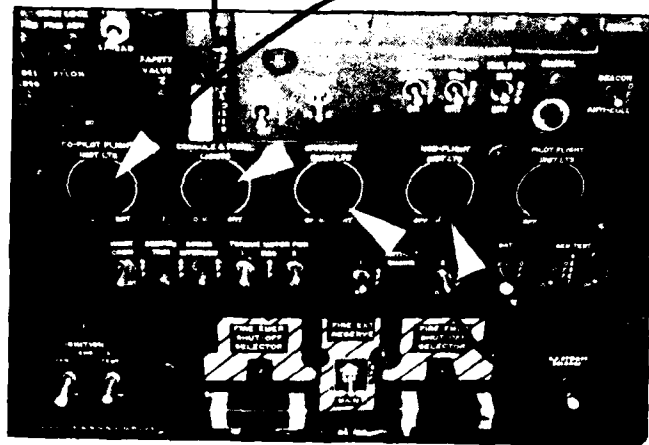
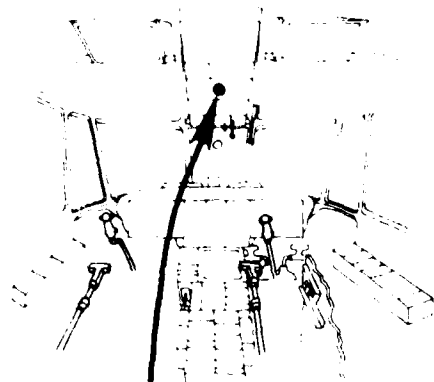
Set BEACON ANTI-COLL switch to OFF

GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose: To verify that the circuit breakers are IN and switches are set as appropriate.



34. Action
Set COPILOT FLIGHT INST LTS rheostat to Off (counter clockwise).

35. Action
Set CONSOLE & PANEL LIGHTS rheostat to OFF (counter clockwise).

36. Action
Set INSTRUMENT EMER LTS rheostat to OFF (counter clockwise).

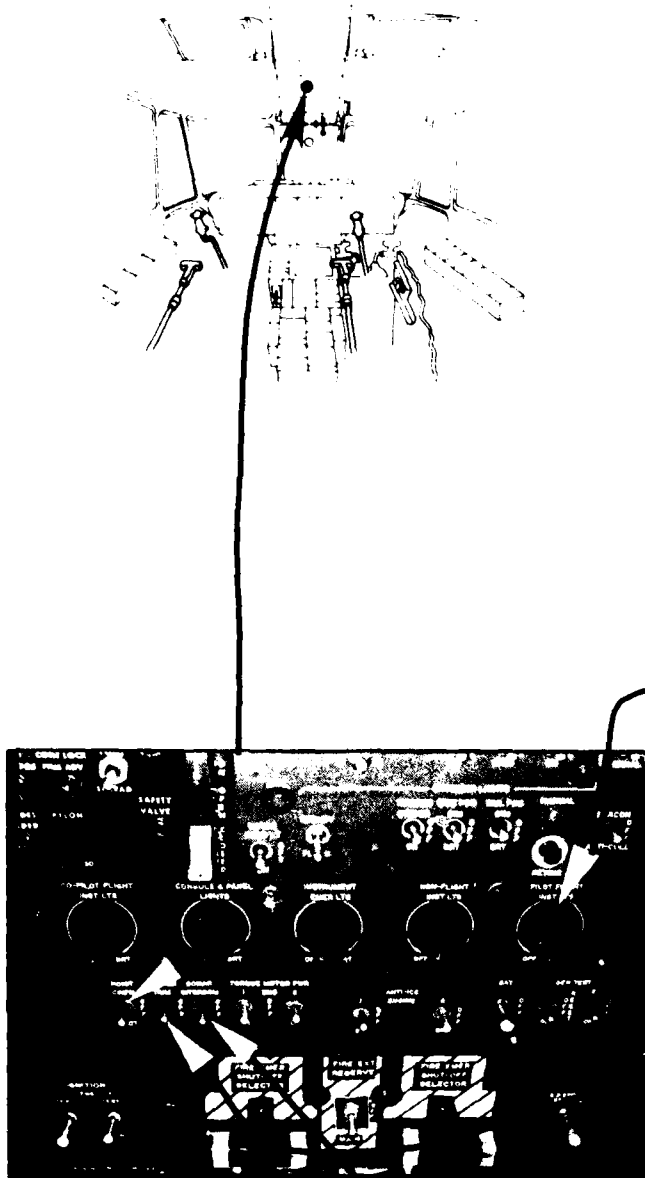
37. Action
Set NON-FLIGHT INST LTS rheostat to OFF (counter clockwise).

GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose: To verify that the circuit breakers are IN and switches are set as appropriate.



38. Action

Set PILOT FLIGHT INST LTS rheostat to OFF (counter clockwise)

39. Action

Set HOIST switch to OFF

40. Action

Set BEEPER TRIM switch to OFF

41. Action

Set SONAR INTERCOM switch to OFF

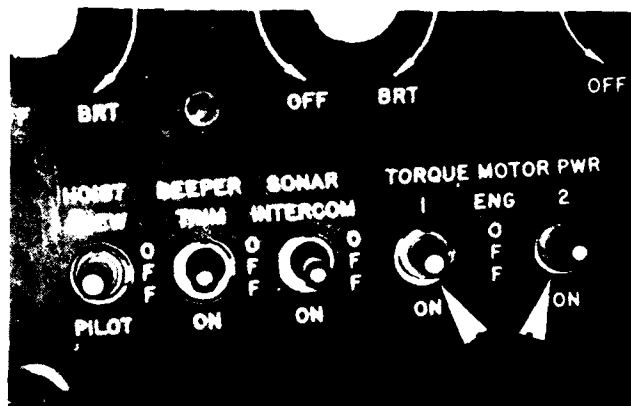
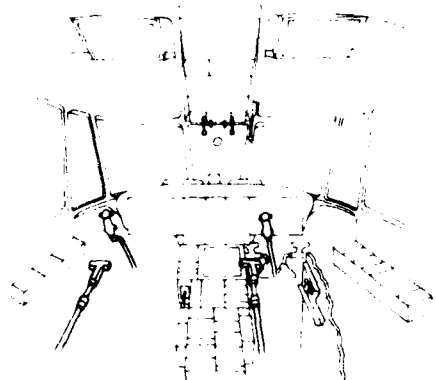
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



42. Action

Set Torque Motor switches to OFF

43. Action

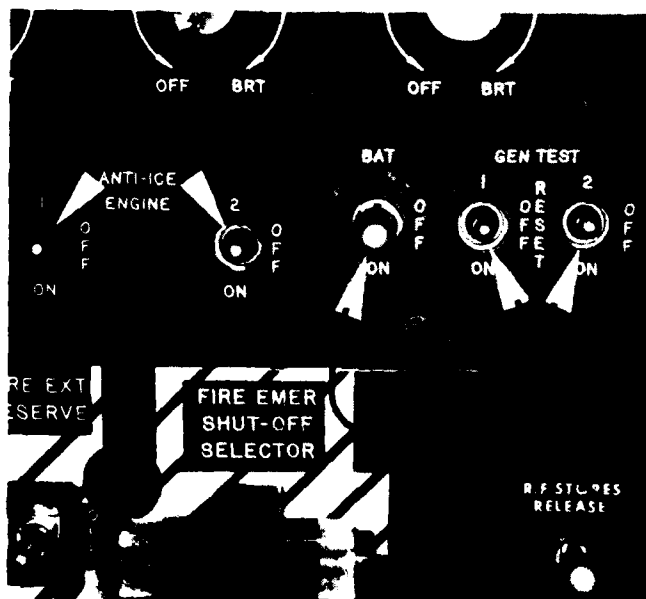
Set both ENGINE ANTI-ICE switches to OFF

44. Action

Set BATTERY switch to OFF

45. Action

Set both Generator switches to OFF

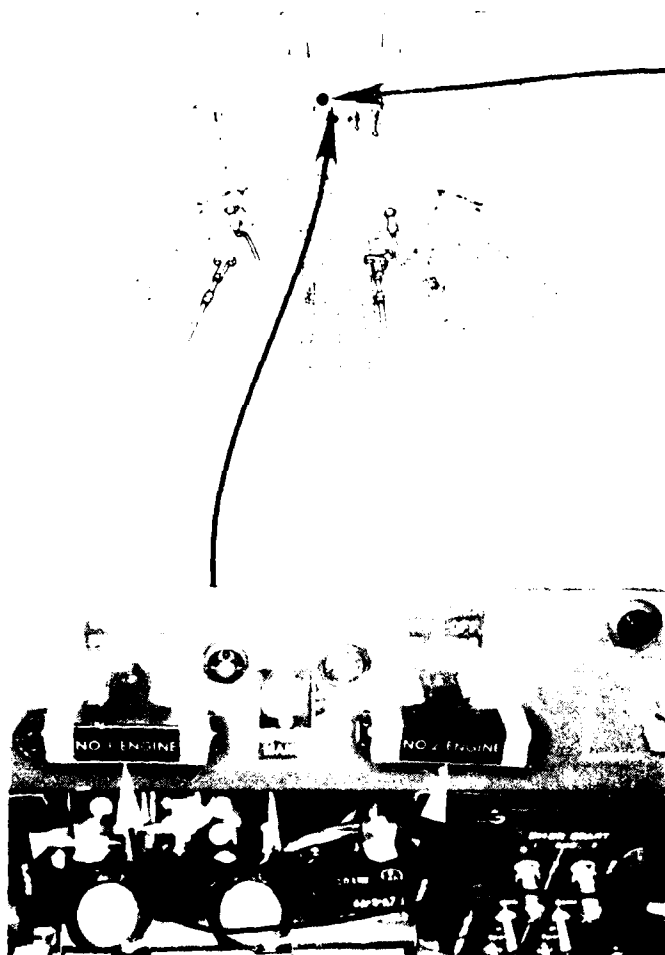


GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO 1. Circuit Breakers and Switches GHEG

Purpose: To verify that the circuit breakers are IN and switches are set as appropriate.



46. Action

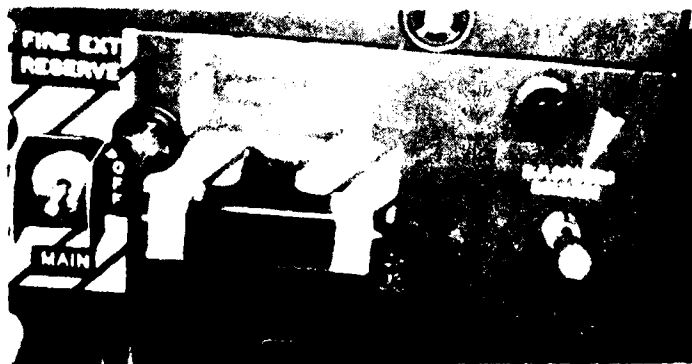
Set both IGNITION switches to OFF (center)

47. Action

Set both NO. 1 ENGINE and NO. 2 ENGINE T-Handles IN

48. Action

Set R.F.(Right Forward Launcher) STORES switch to OFF (up)



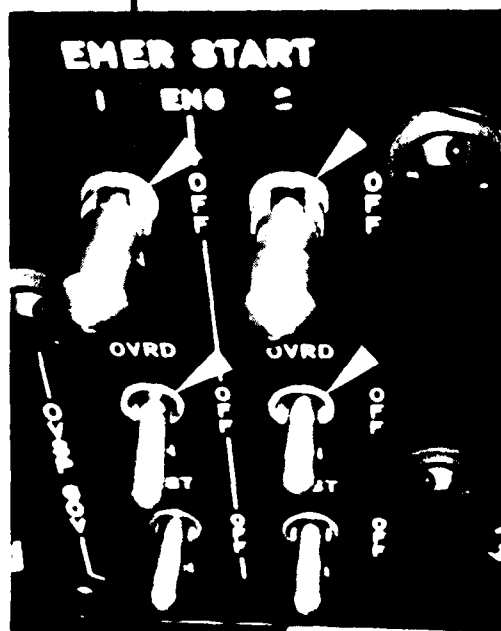
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



49. Action

Set Accessory Drive switch to ACCESS DR. position (forward)

50. Action

Set Emergency start switches to OFF

51. Action

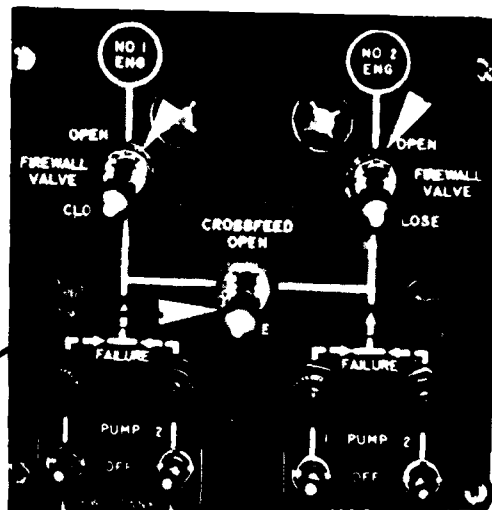
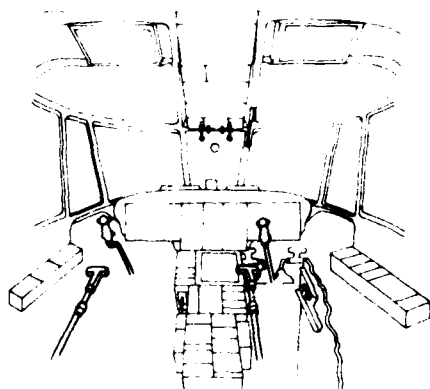
Set Overspeed Governor switches to OFF

GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose: To verify that the circuit breakers are IN and switches are set as appropriate.



52. Action

Set No. 1 Engine and No. 2 Engine FIREWALL VALVE switches to CLOSE

53. Action

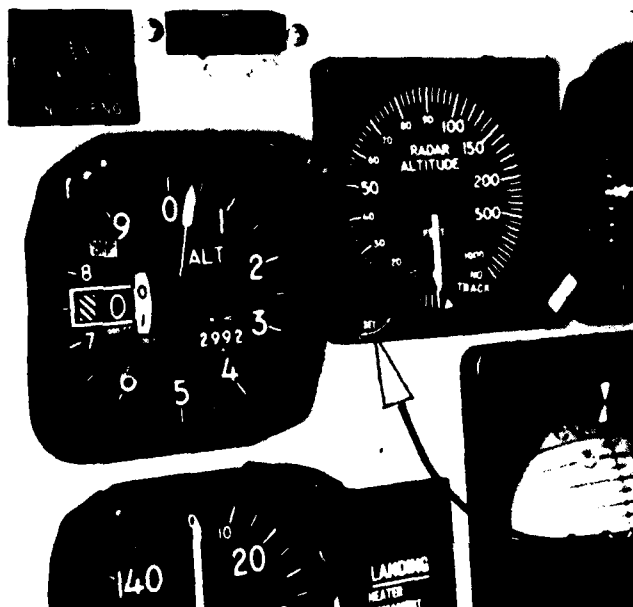
Set CROSSFEED switch to CLOSE

54. Action

Set 4 boost pump switches OFF

55. Action

Set both Radar Altimeters to OFF (counter clockwise)



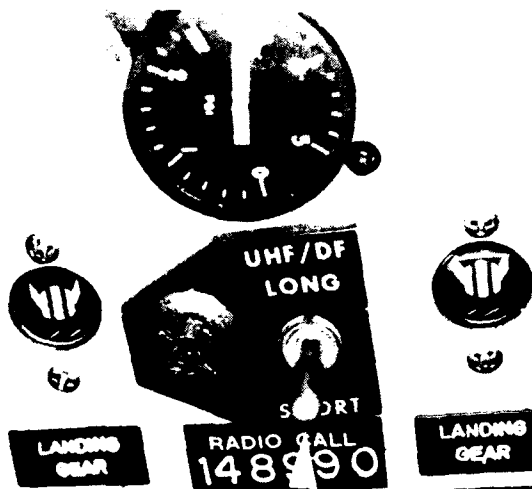
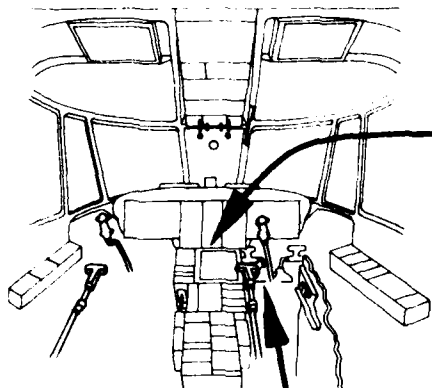
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



56. Action

Set UHF/DF switch to SHORT (down)

57. Action

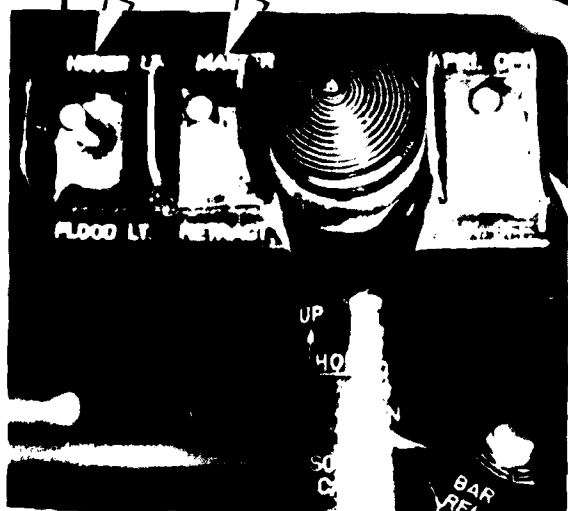
Set HOVER LT/FLOOD LT switch to OFF (center)

58. Action

Set MASTER/RETRACT switch to OFF (center)

59. Action

Set PRI OFF/AUX OFF switch to Neutral, center position



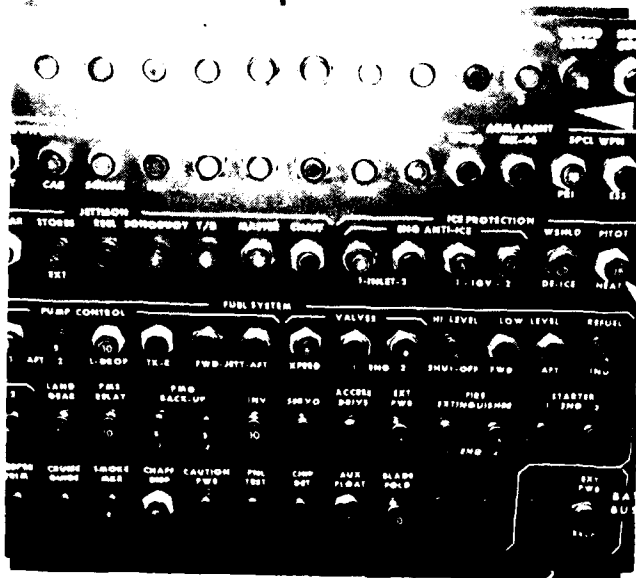
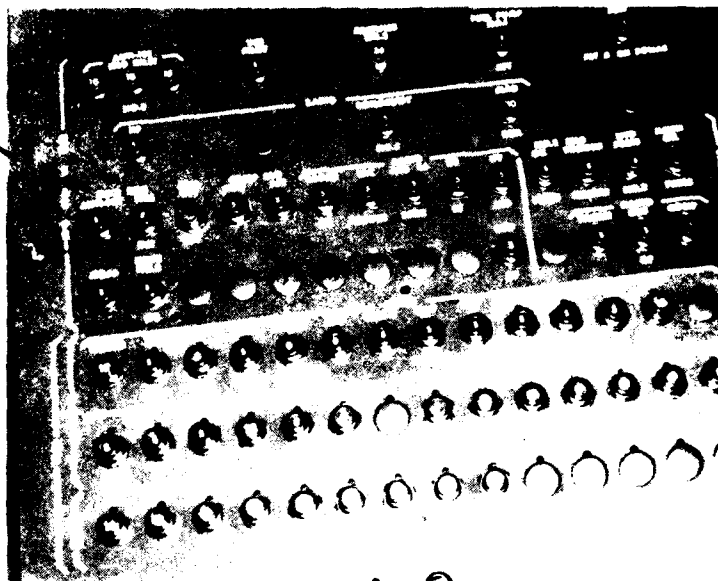
GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

INTENTIONALLY LEFT BLANK

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



13. Action

Check Pilot Circuit Breakers _____

14. Action

Check Center Circuit Breakers _____

15. Note

_____ CB on Center Circuit Breaker Panel is normally found _____. Reset if _____. Mentally note which CBs were found out or red tagged

16. Note

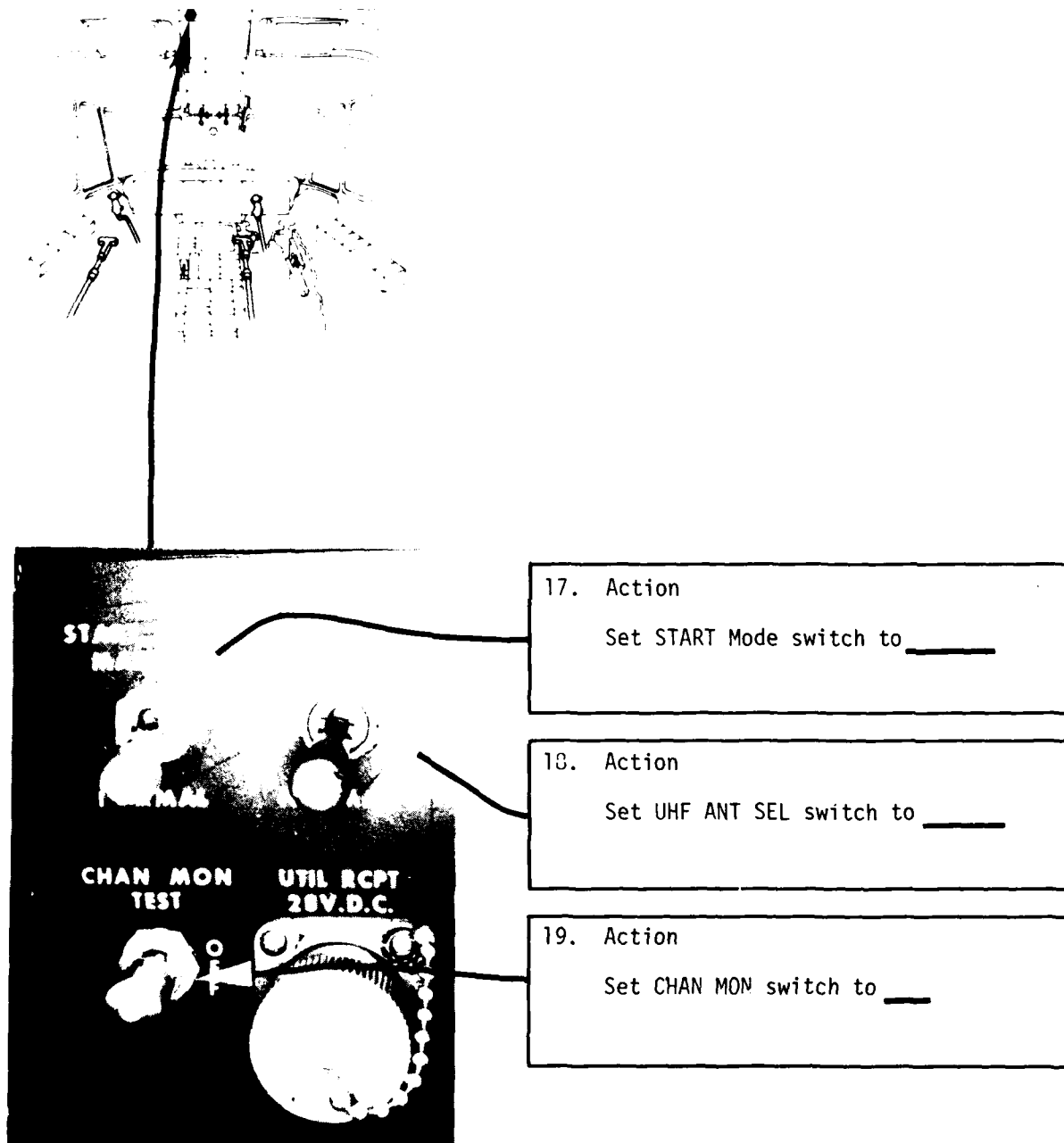
Pilot to visually check copilot's circuit breakers _____

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

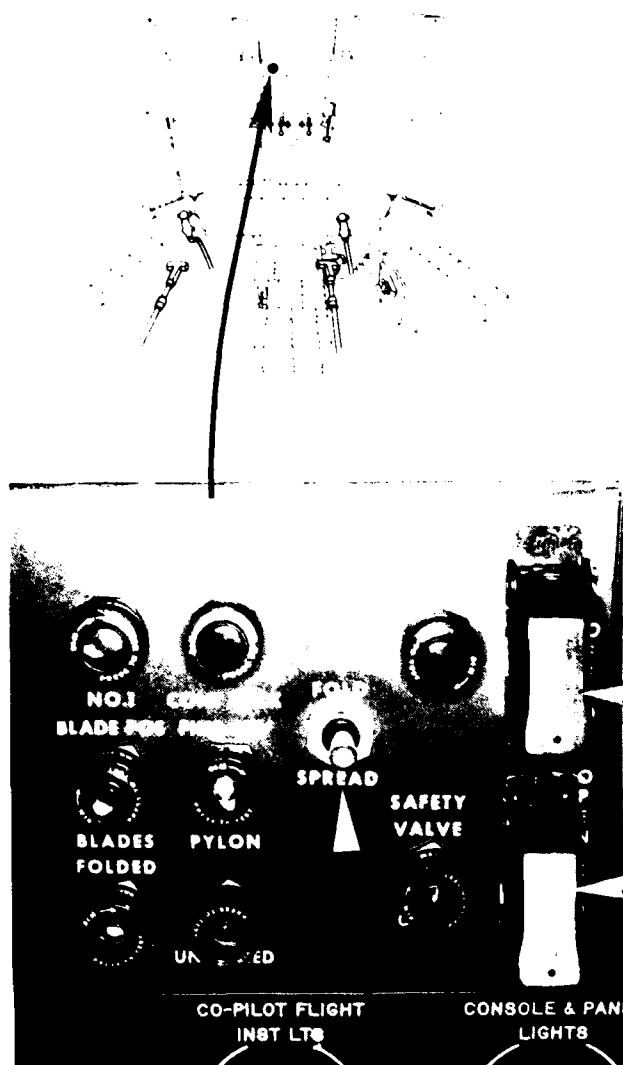


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



20. Action

Set BLADE FOLD MASTER switch
____, cover down

21. Action

Set BLADE FOLD SAFETY VALVE
switch _____, cover down

22. Action

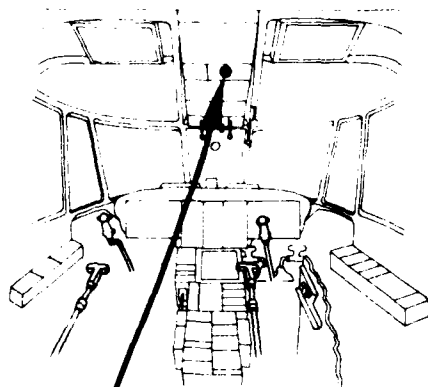
Set BLADES FOLD SPREAD
switch to _____, center position

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



23. Action

Set WINDSHIELD ANTI-ICE switch
to ____, center position

24. Action

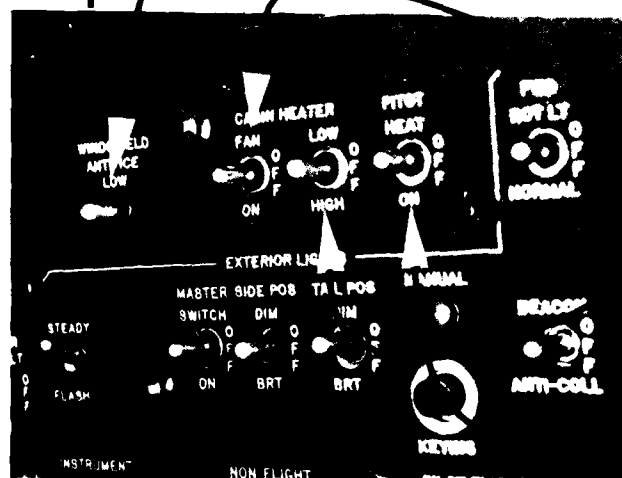
Set CABIN HEATER FAN switch
to ____

25. Action

Set CABIN HEATER switch
to ____

26. Action

Set PITOT HEAT switch
to ____

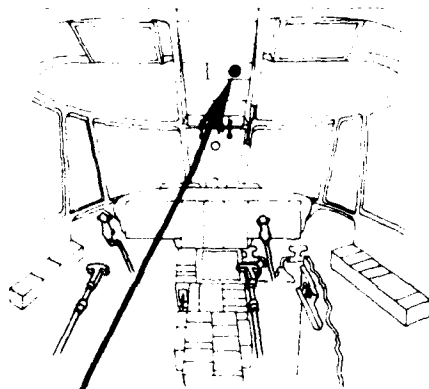


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



27. Action

Set forward rotator light
(FWD ROT LT) switch to

28. Action

Set ROTOR HEAD LT switch
to

29. Action

Set STEADY - FLASH switch
to

30. Action

Set MASTER SWITCH to

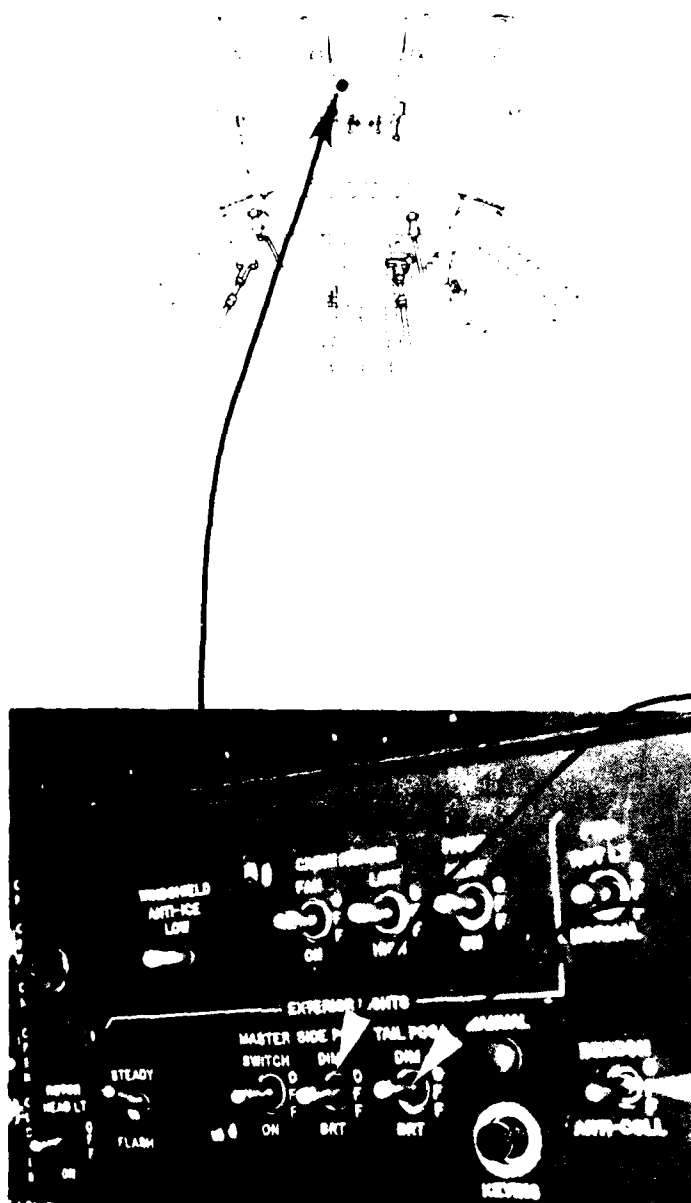


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



31. Action

Set SIDE POS switch
to ____

32. Action

Set TAIL POS switch
to ____

33. Action

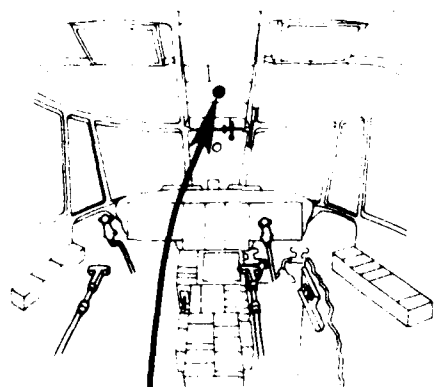
Set BEACON ANTI-COLL switch
to ____

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



34. Action

Set COPILOT FLIGHT INST LTS rheostat to ____ (counter clockwise).

35. Action

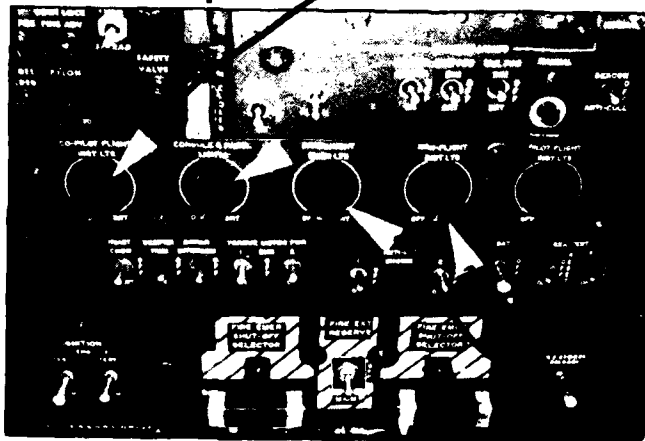
Set CONSOLE & PANEL LIGHTS rheostat to ____ (counter clockwise).

36. Action

Set INSTRUMENT EMER LTS rheostat to ____ (counter clockwise).

37. Action

Set NON-FLIGHT INST LTS rheostat to ____ (counter clockwise).

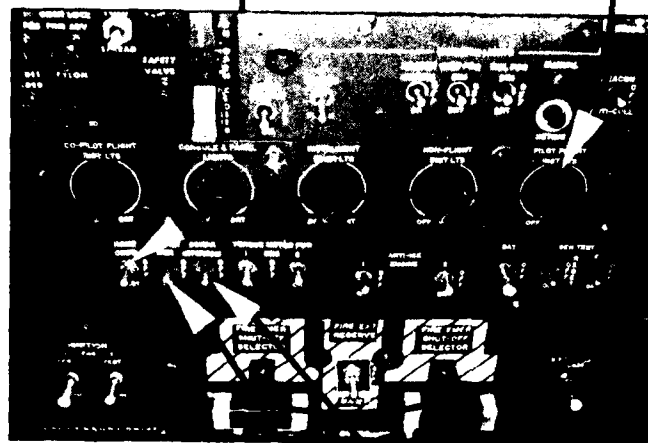
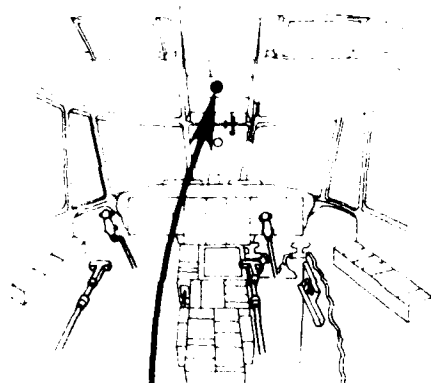


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose.



38. Action

Set PILOT FLIGHT INST LTS rheostat to ____ (counter clockwise)

39. Action

Set HOIST switch to ____

40. Action

Set BEEPER TRIM switch to ____

41. Action

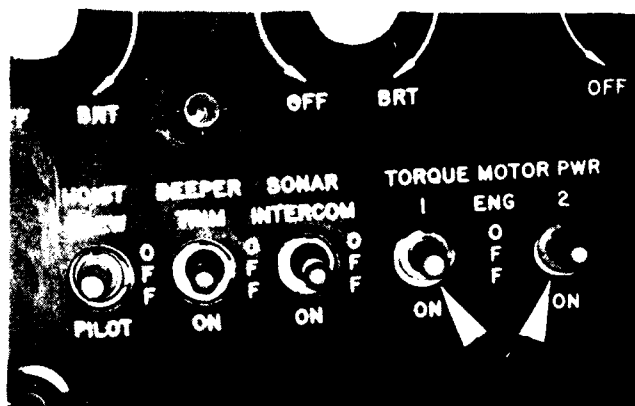
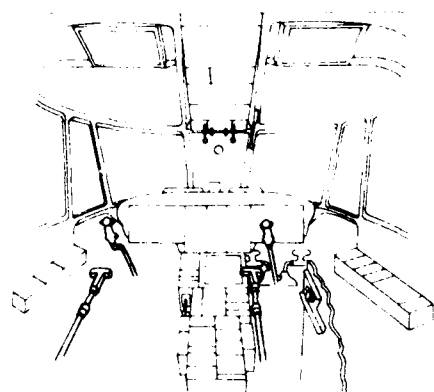
Set SONAR INTERCOM switch to ____

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



42. Action

Set Torque Motor switches to ____

43. Action

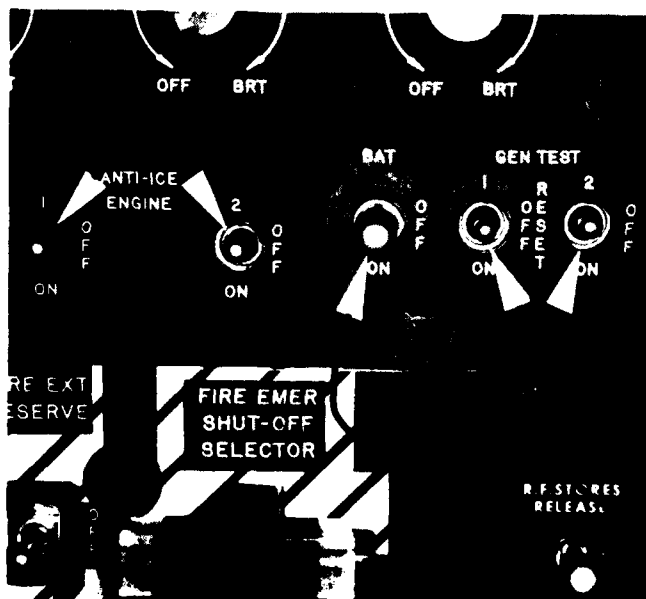
Set both ENGINE ANTI-ICE switches to ____

44. Action

Set BATTERY switch to ____

45. Action

Set both Generator switches to ____

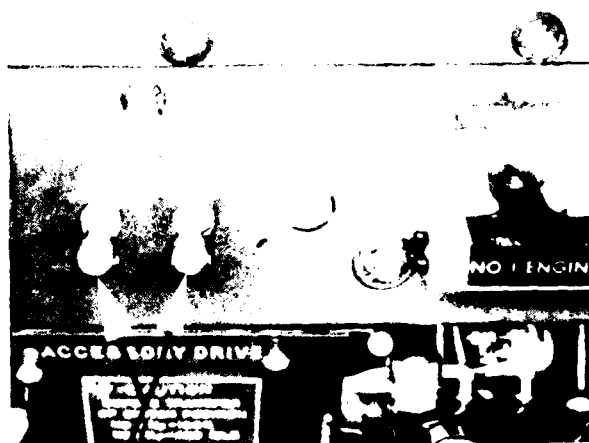
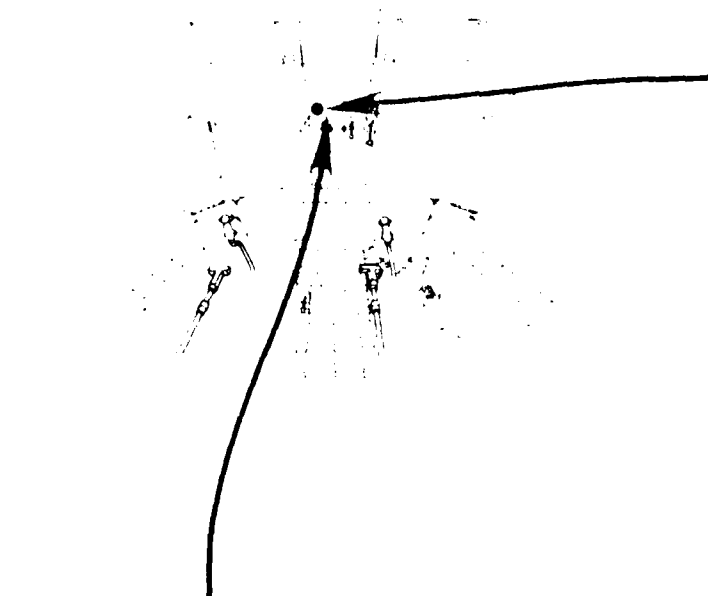


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



46. Action

Set both IGNITION switches
to ____ (center)



47. Action

Set both NO. 1 ENGINE and
NO. 2 ENGINE T-Handles ____



48. Action

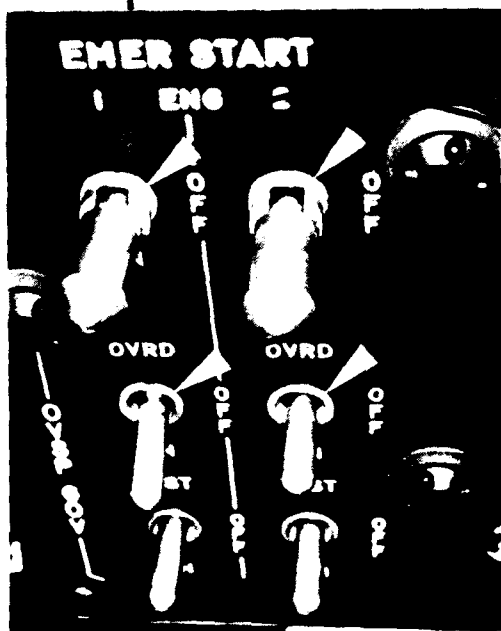
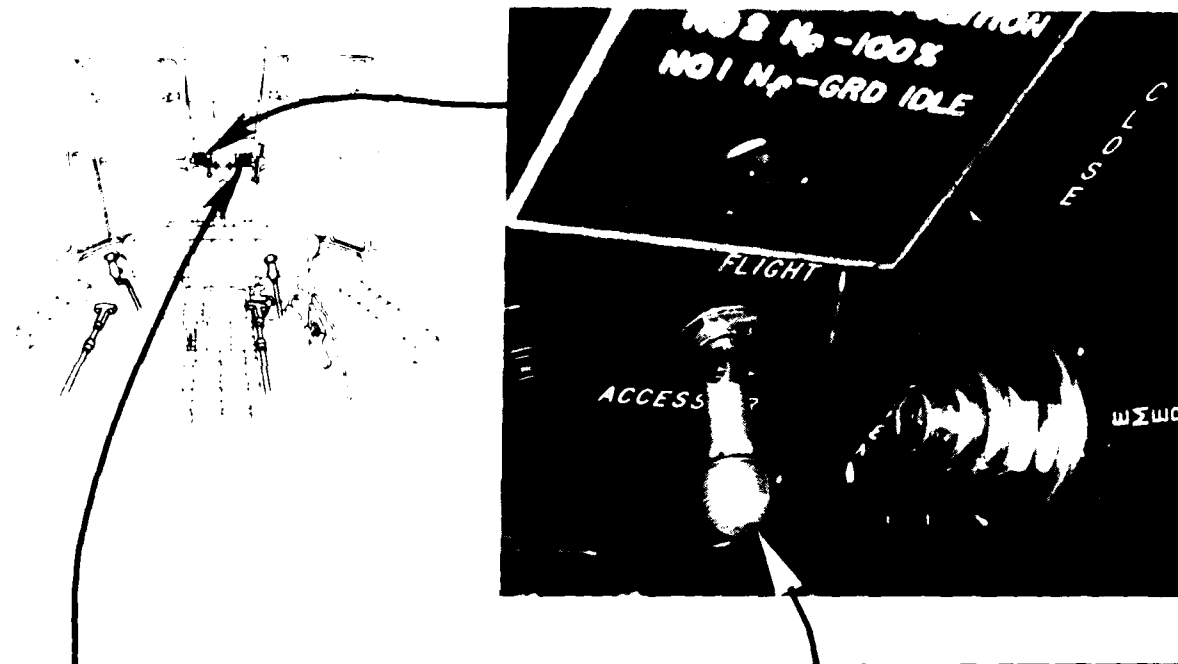
Set R.F.(Right Forward Launcher)
STORES switch to ____ (up)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



49. Action

Set Accessory Drive switch to
——— position (forward)

50. Action

Set Emergency start switches
to —

51. Action

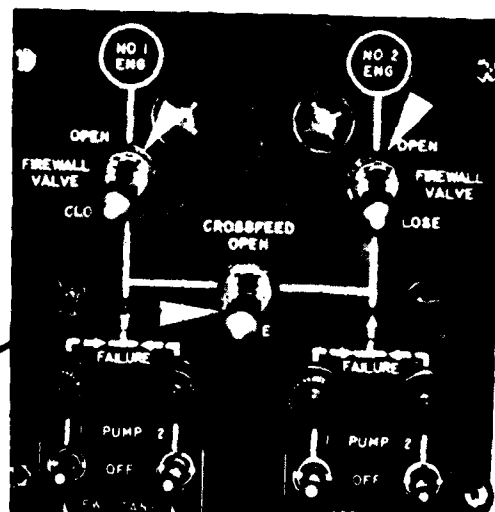
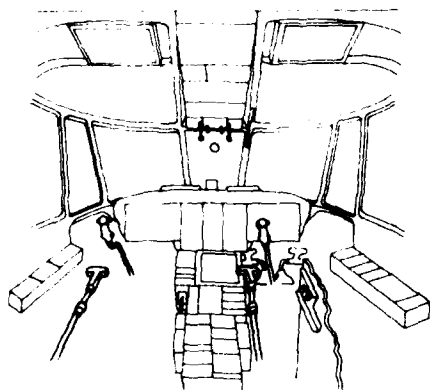
Set Overspeed Governor switches
to —

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



52. Action

Set No. 1 Engine and No. 2 Engine
FIREWALL VALVE switches to _____

53. Action

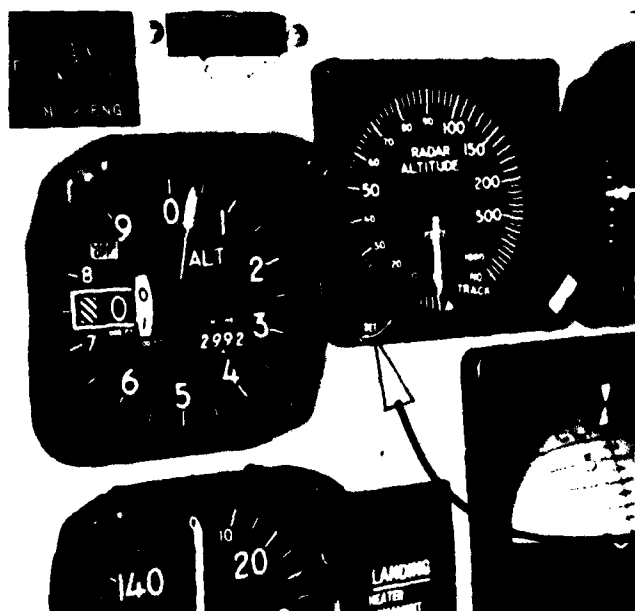
Set CROSSFEED switch to _____

54. Action

Set 4 boost pump switches _____

55. Action

Set both Radar Altimeters to
_____ (counter clockwise)

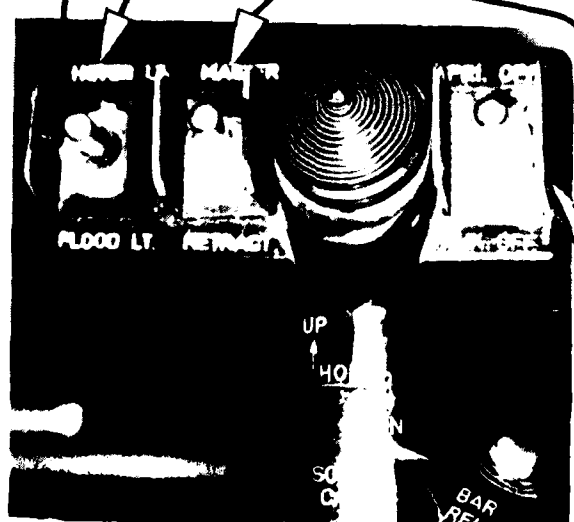
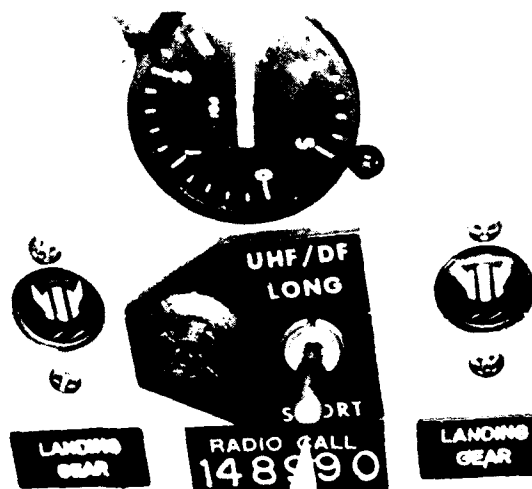
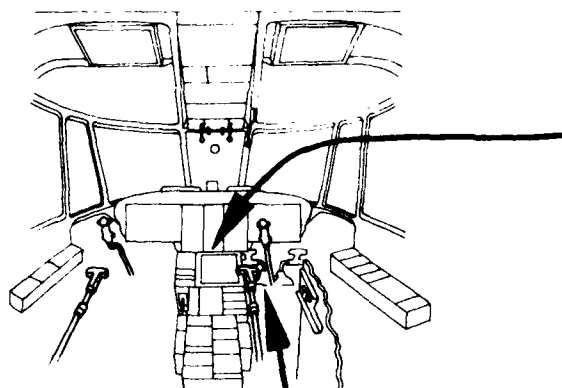


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:



56. Action

Set UHF/DF switch to ____ (____)

57. Action

Set HOVER LT/FLOOD LT switch to
____ (____)

58. Action

Set MASTER/RETRACT switch to ____
(____)

59. Action

Set PRI OFF/AUX OFF switch to
____, center position

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

INTENTIONALLY LEFT BLANK

SH-3D/H NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches. . .

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST (Steps 13-59)

State in your own words the Purpose

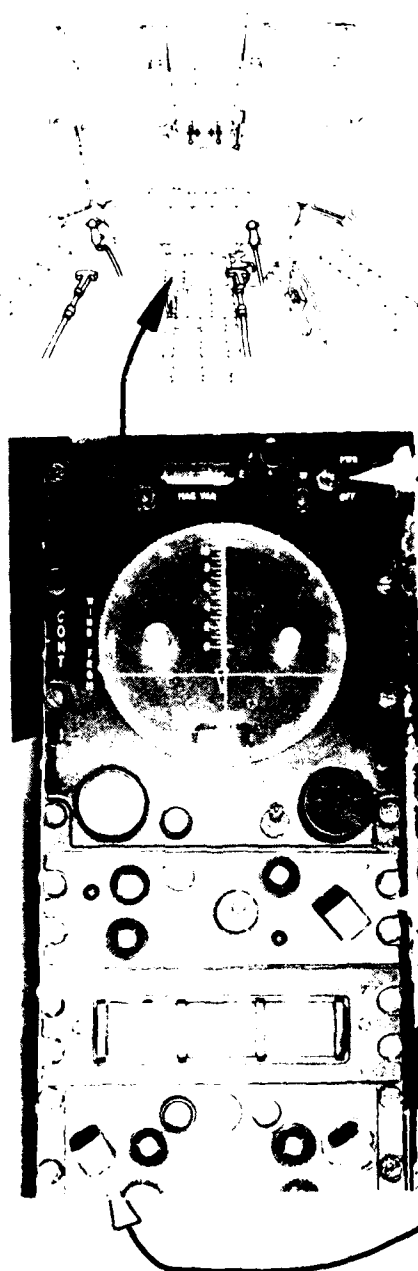
Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

NORMAL START CHECKLIST ITEM NO.1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



60. Action

Set CONT IND PWR switch to OFF (down)

61. Action

Set NAV PLTR (Local) Control Panel
MODE switch to STBY (counter clockwise)

62. Action

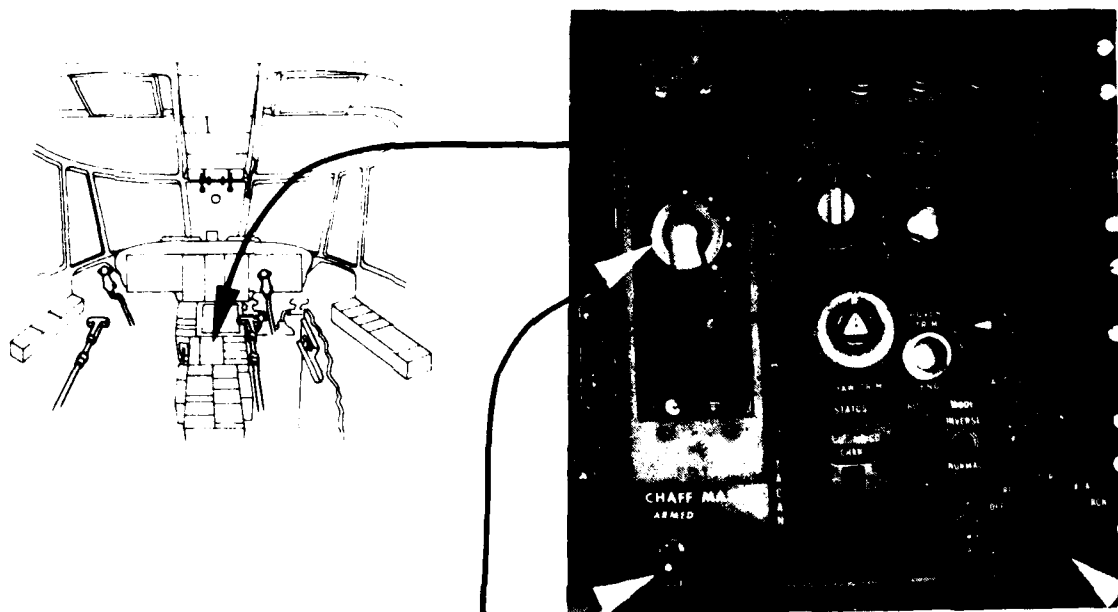
Set NAV PLTR (Remote) Control Panel
MODE switch to OFF (counter clockwise)

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



63. Action

Set NAV (Doppler) mode switch to OFF
(counter clockwise)

64. Action

Set CHAFF MASTER switch to OFF
(pull out and down)

65. Action

Set TACAN mode switch to OFF
(counter clockwise)

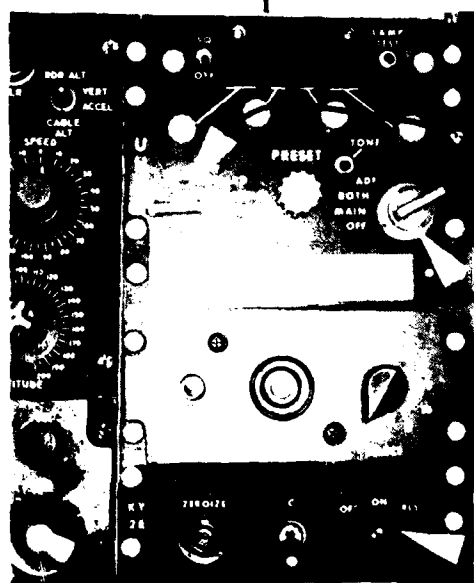
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



66. Action

Set UHF mode switch as desired
(usually PRESET)

67. Action

Set UHF function switch OFF

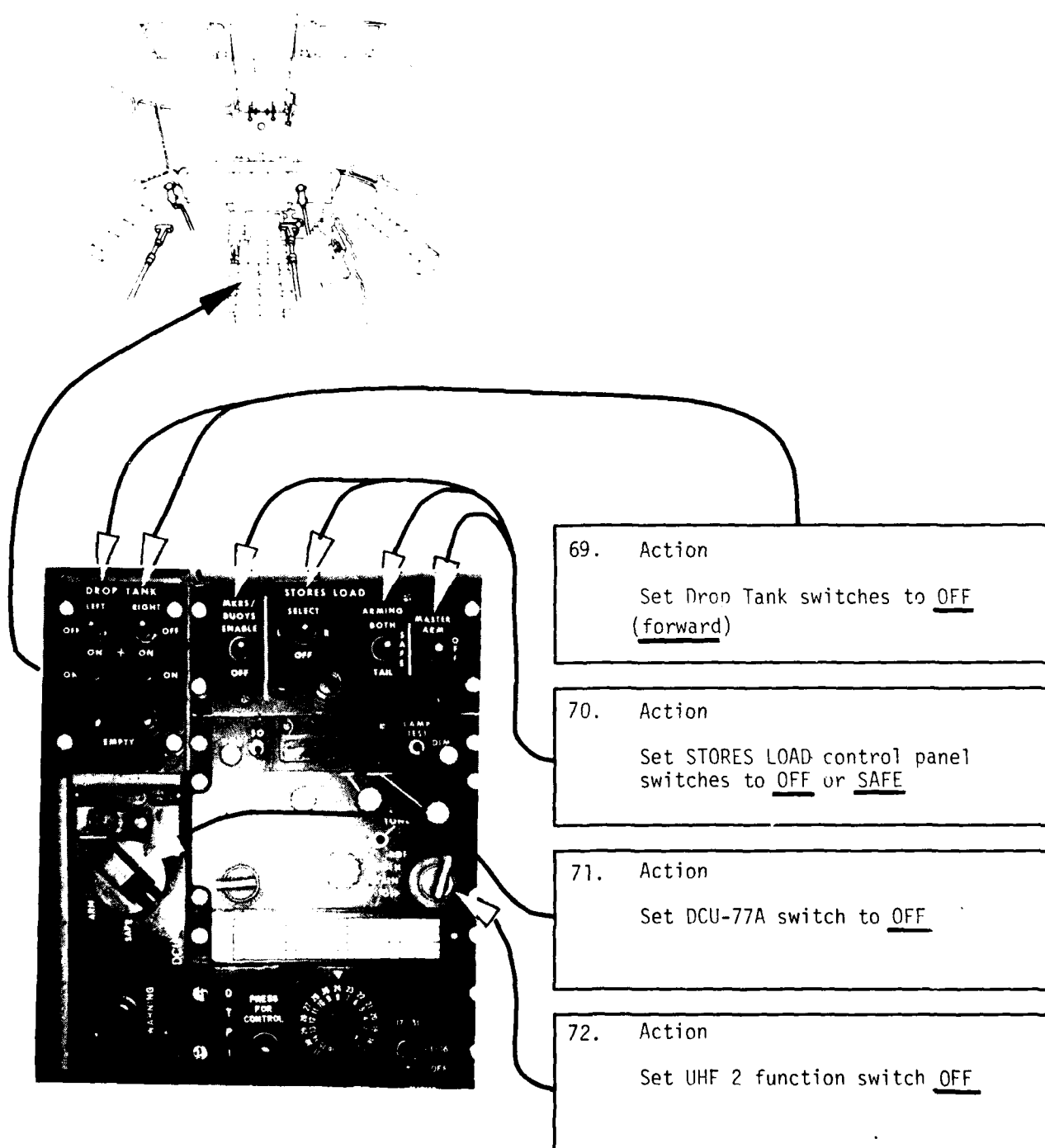
68. Action

Set KY 28 Power switch to OFF. Set
Cipher switch to P (Plain)

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose: To verify that the circuit breakers are IN and switches are set as appropriate.

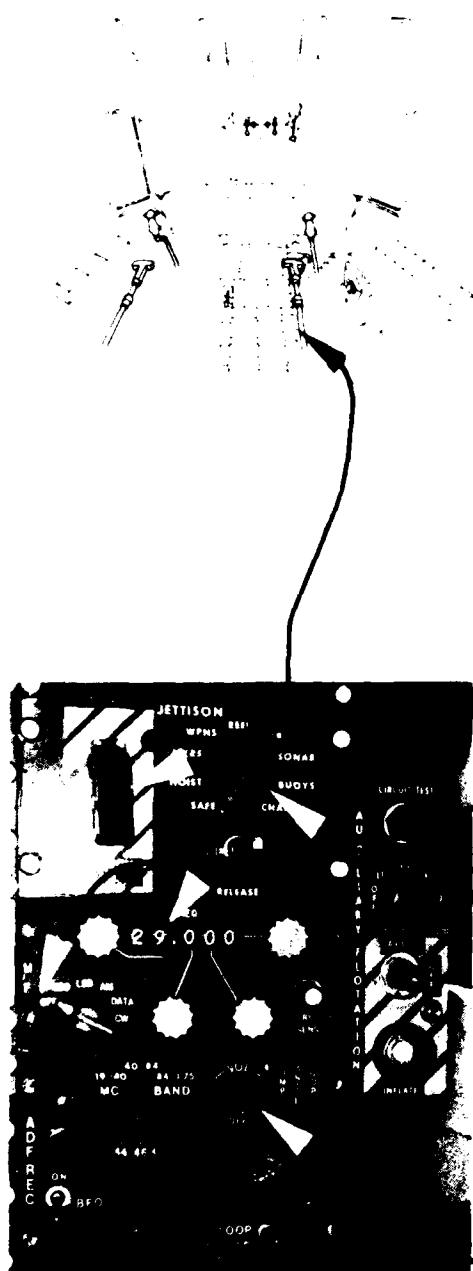


GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches . . . SELF

Purpose:

To verify that the circuit breakers and switches are set as appropriate



73. Action

Set JETTISON ALL switch OFF
cover down, shear wired,
selector knob to SAFE

74. Action

Set HF mode selector switch to OFF
(counter clockwise); set frequency
to 29.000

75. Action

Set AUXILIARY FLOTATION to OFF
(pull out and down)

76. Action

Set LF/ADF to OFF (Volume control
counter clockwise)

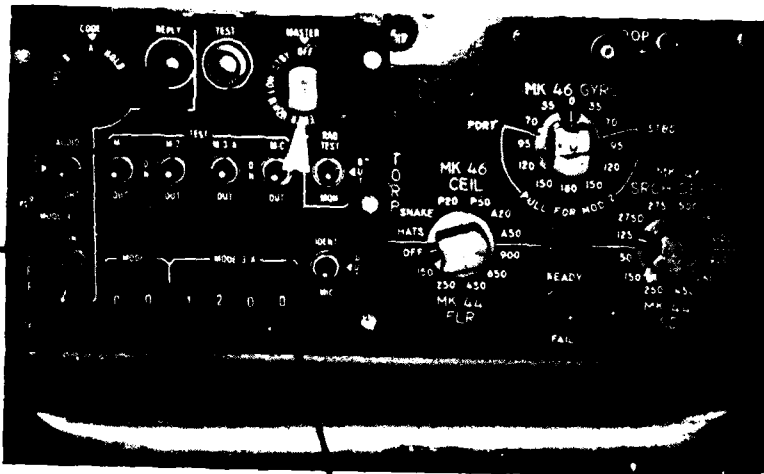
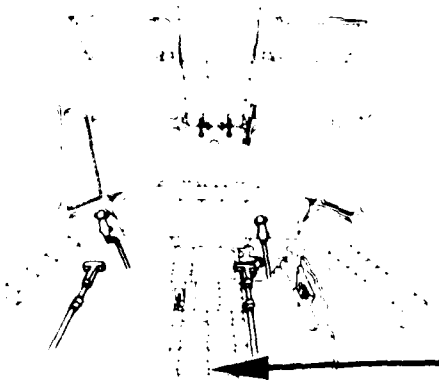
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and SwitchesCHECK

Purpose:

To verify that the circuit breakers and switches are set as appropriate



77. Action

Set IFF MASTER switch to OFF

78. Voice Response

"CHECK"

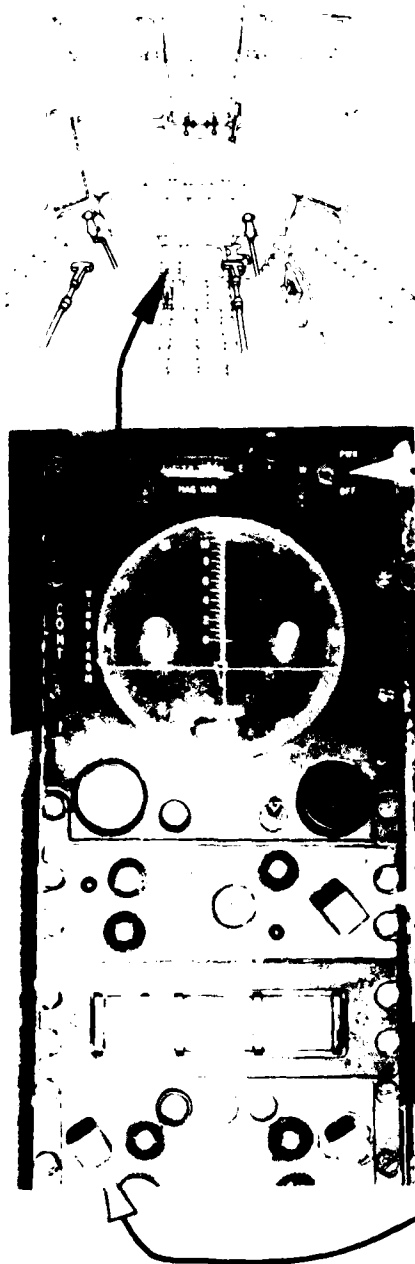
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO.1. Circuit Breakers and Switches CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



60. Action

Set CONT IND PWR switch to ____ (____)

61. Action

Set NAV PLTR (Local) Control Panel
MODE switch to ____ (____)

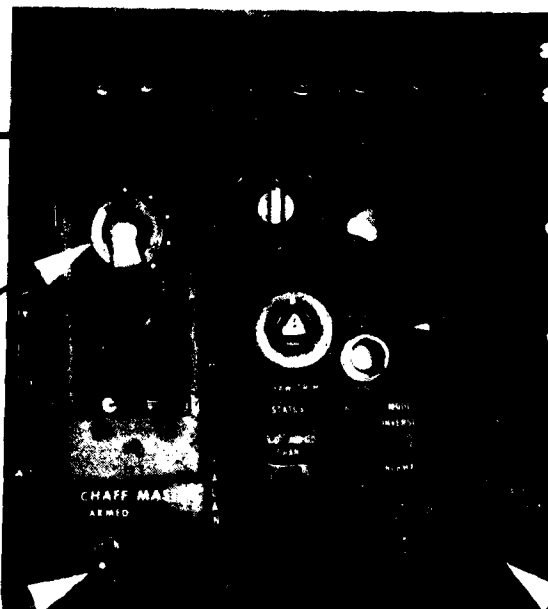
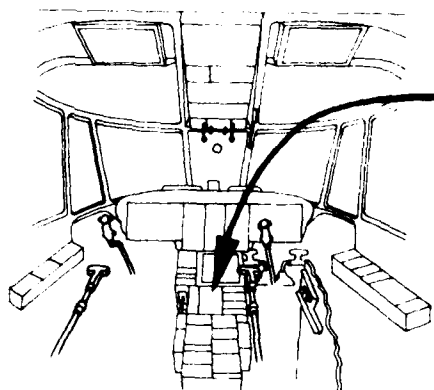
62. Action

Set NAV PLTR (Remote) Control Panel
MODE switch to ____ (____)

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK



63. Action

Set NAV (Doppler) mode switch to ____
(____)

64. Action

Set CHAFF MASTER switch to ____
(pull ____ and ____)

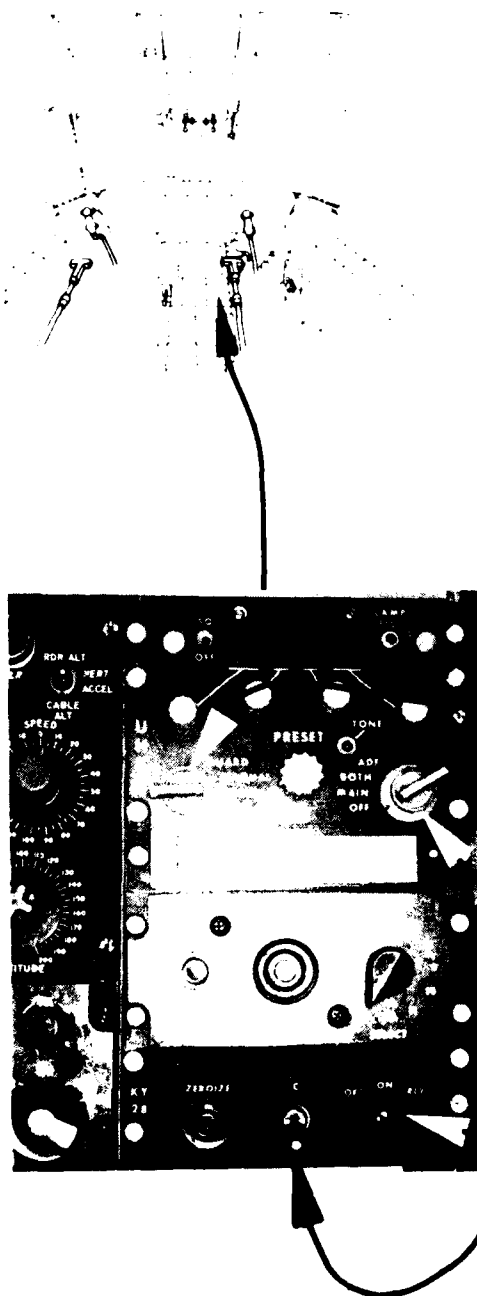
65. Action

Set TACAN mode switch to ____
(____)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK



66. Action

Set UHF mode switch as desired
(usually _____)

67. Action

Set UHF function switch _____

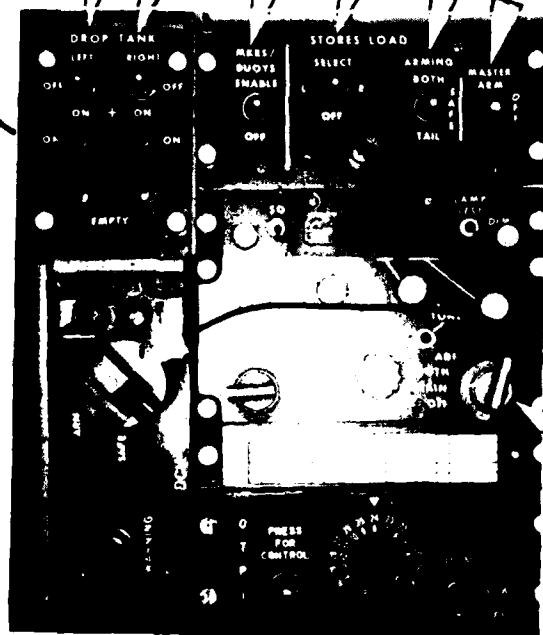
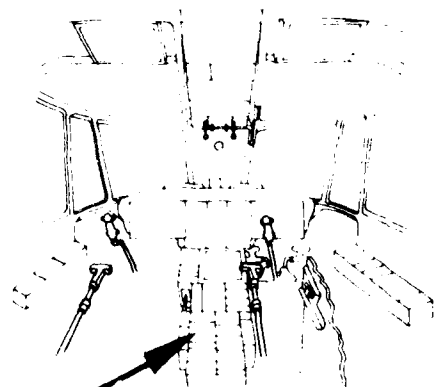
68. Action

Set KY 28 Power switch to _____. Set
Cipher switch to ____ (Plain)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK



69. Action

Set Drop Tank switches to ____
(____)

70. Action

Set STORES LOAD control panel
switches to ____ or ____

71. Action

Set DCU-77A switch to ____

72. Action

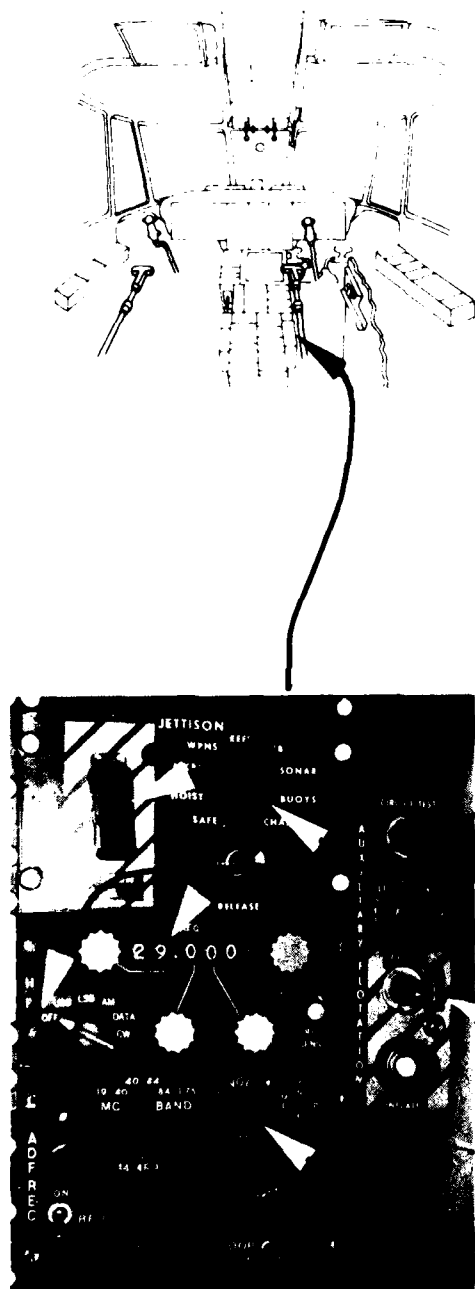
Set UHF 2 function switch ____

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches . . .CHECK

Purpose:



73. Action

Set JETTISON ALL switch
cover _____, shear wired,
selector knob to _____

74. Action

Set HF mode selector switch to _____
(_____, _____); set frequency
to _____.

75. Action

Set AUXILIARY FLOTATION to _____
(pull _____ and _____)

76. Action

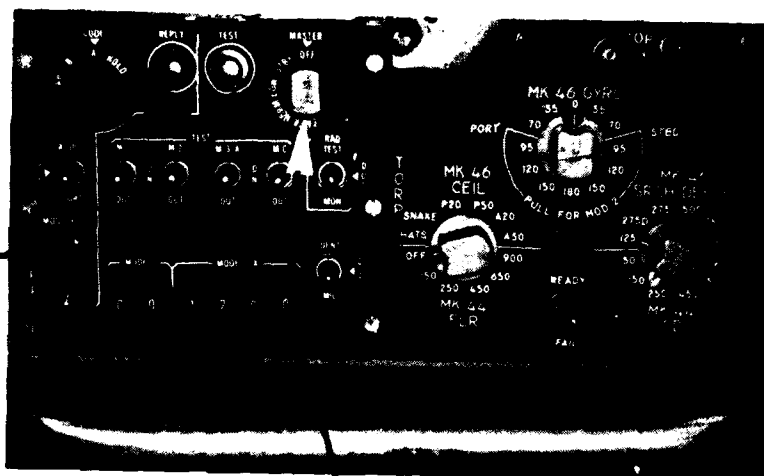
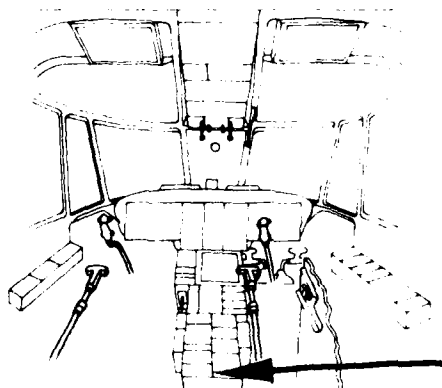
Set LF/ADF to _____ (Volume control)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and SwitchesCHECK

Purpose:



77. Action

Set IFF MASTER switch to

78. Voice Response

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches. . . .

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST (Steps 60-78)

State in your own words the Purpose

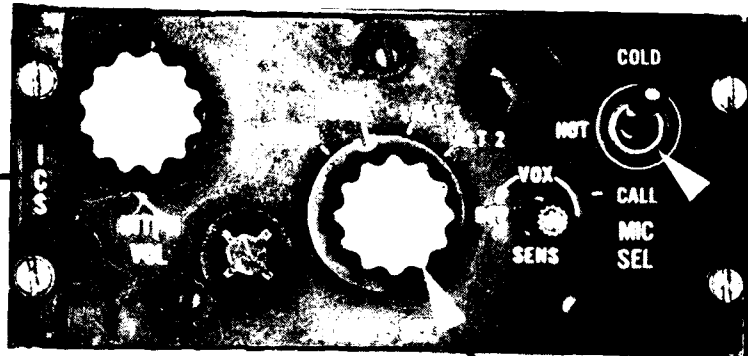
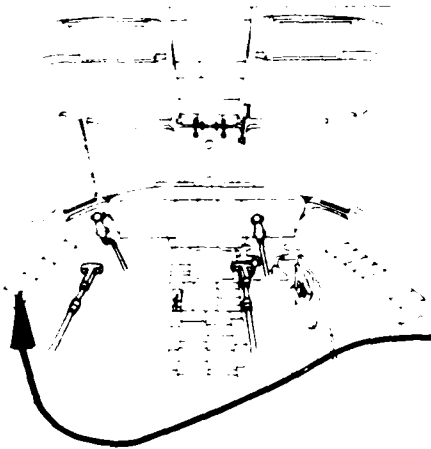
Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.



COPILOT

1. Action

Set ICS AMP SEL mode switch to NORM

2. Action

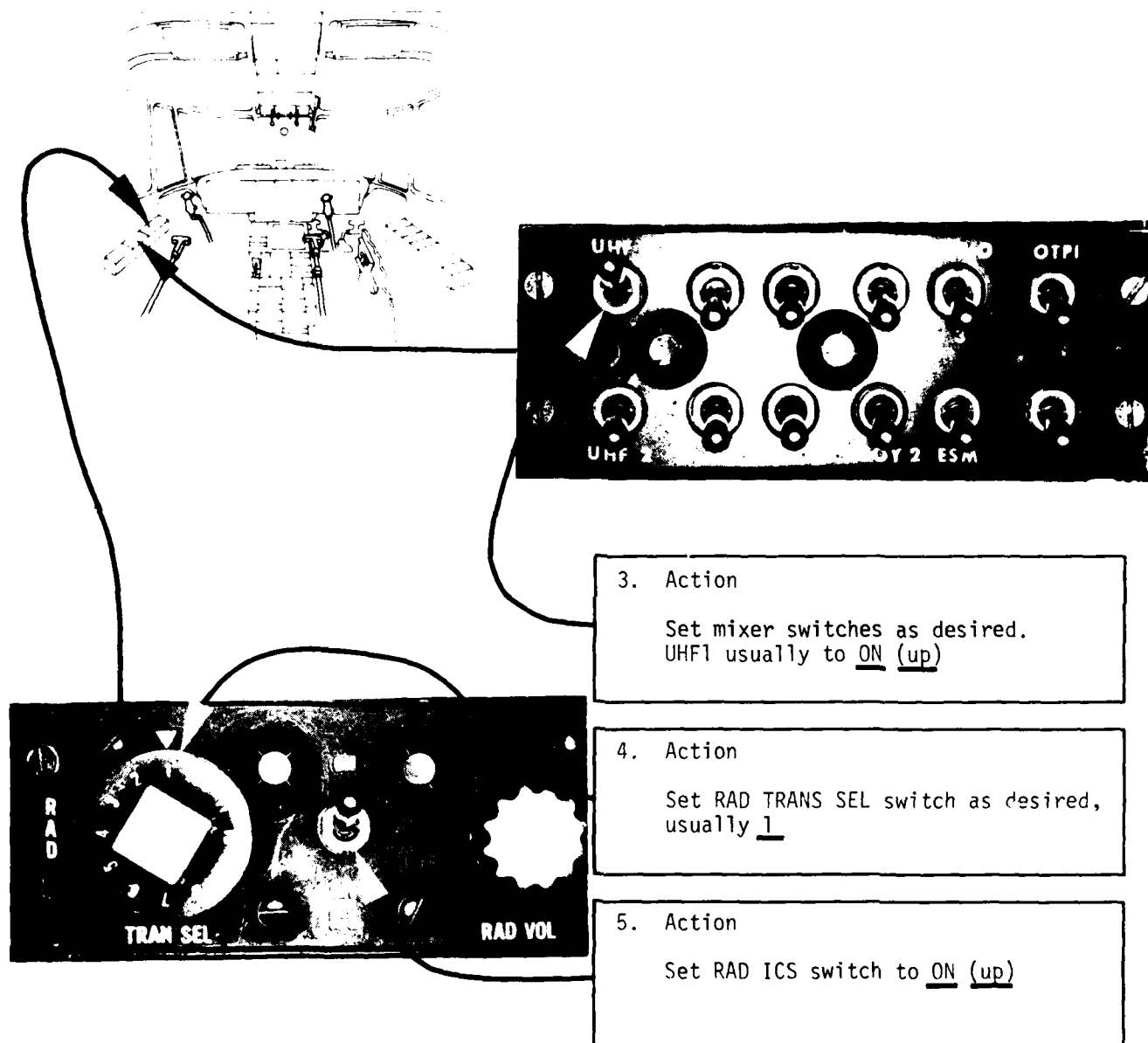
Set ICS MIC SEL switch to COLD or HOT as desired.

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate.

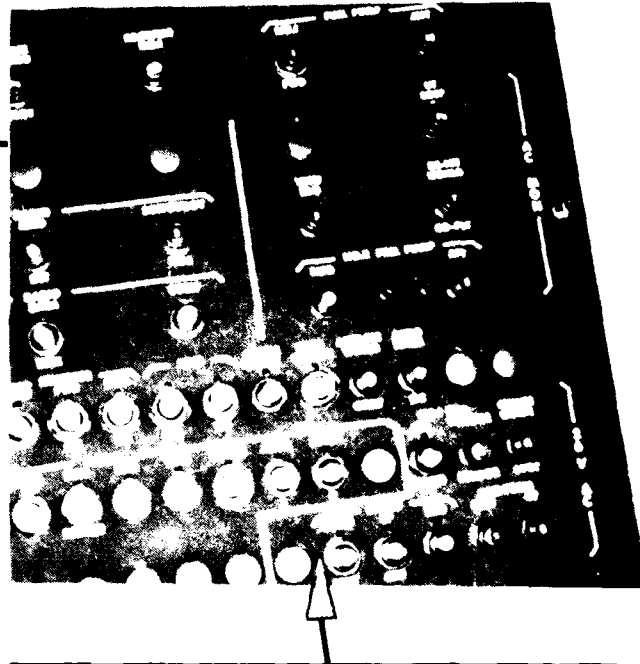
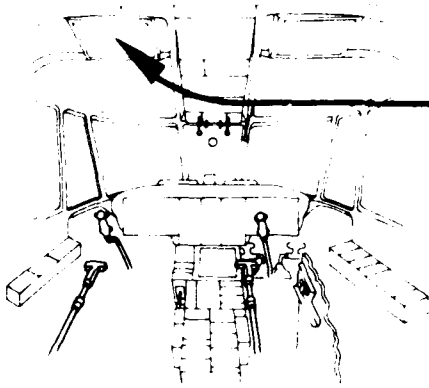


GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

Purpose:

To verify that the circuit breakers are IN and switches are set as appropriate. ,



6. Action

Check copilot circuit breakers IN

7. Note

Copilot to visually check pilot and center circuit breakers IN

8. Voice Response

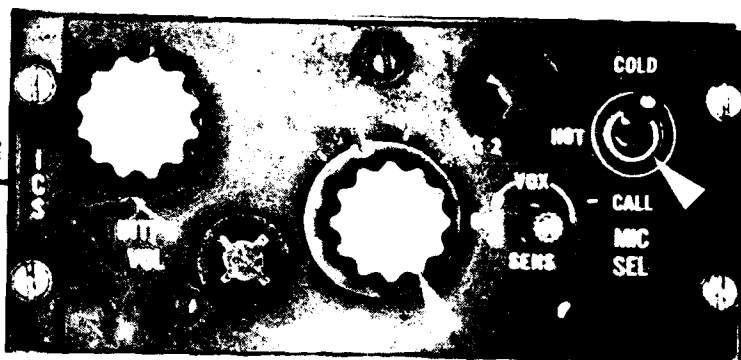
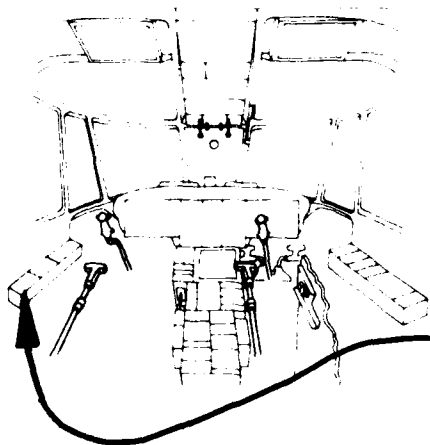
CHECK

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER – NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



COPILLOT

1. Action

Set ICS AMP SEL mode switch to _____

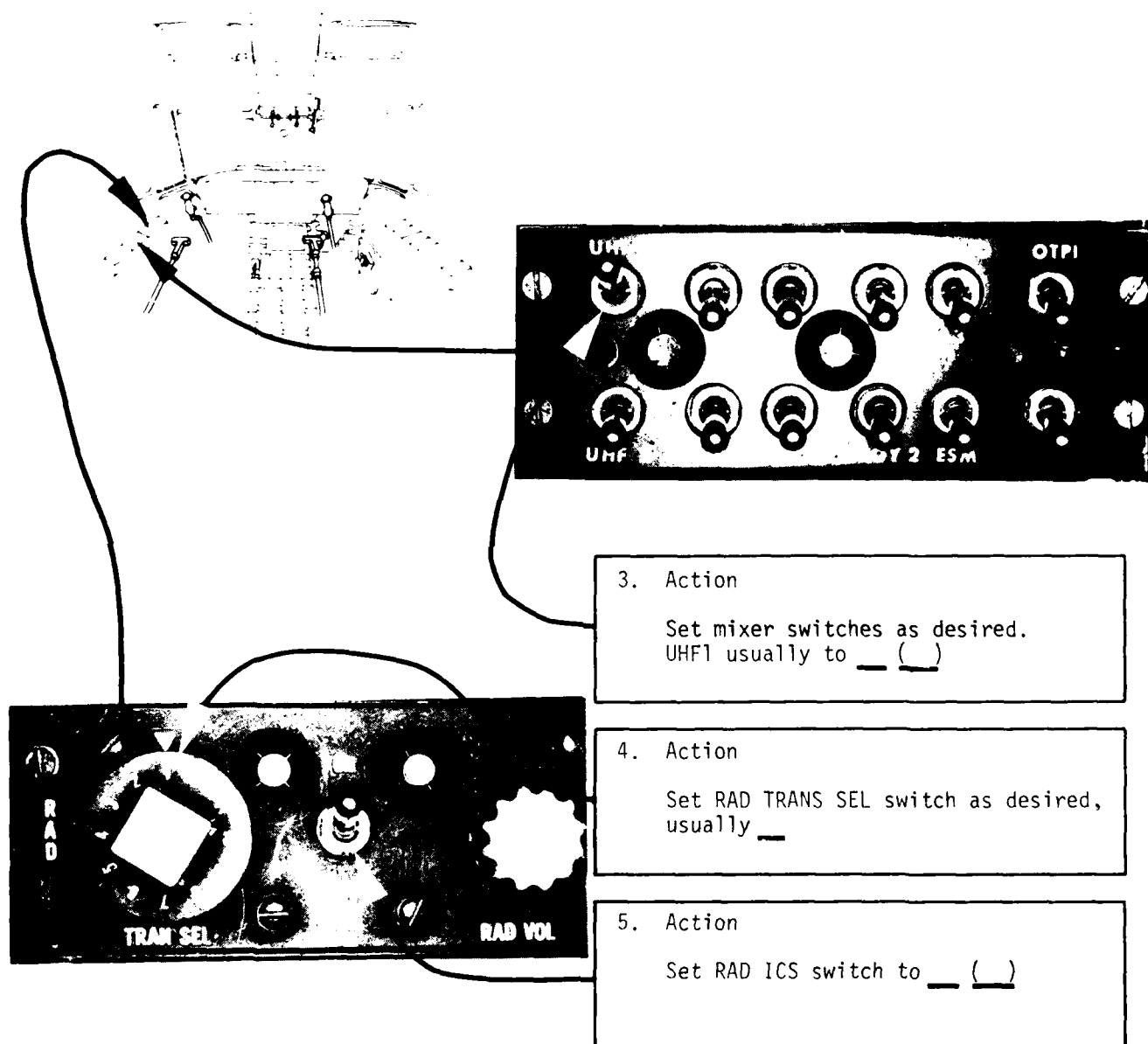
2. Action

Set ICS MIC SEL switch to _____ or _____ as desired.

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

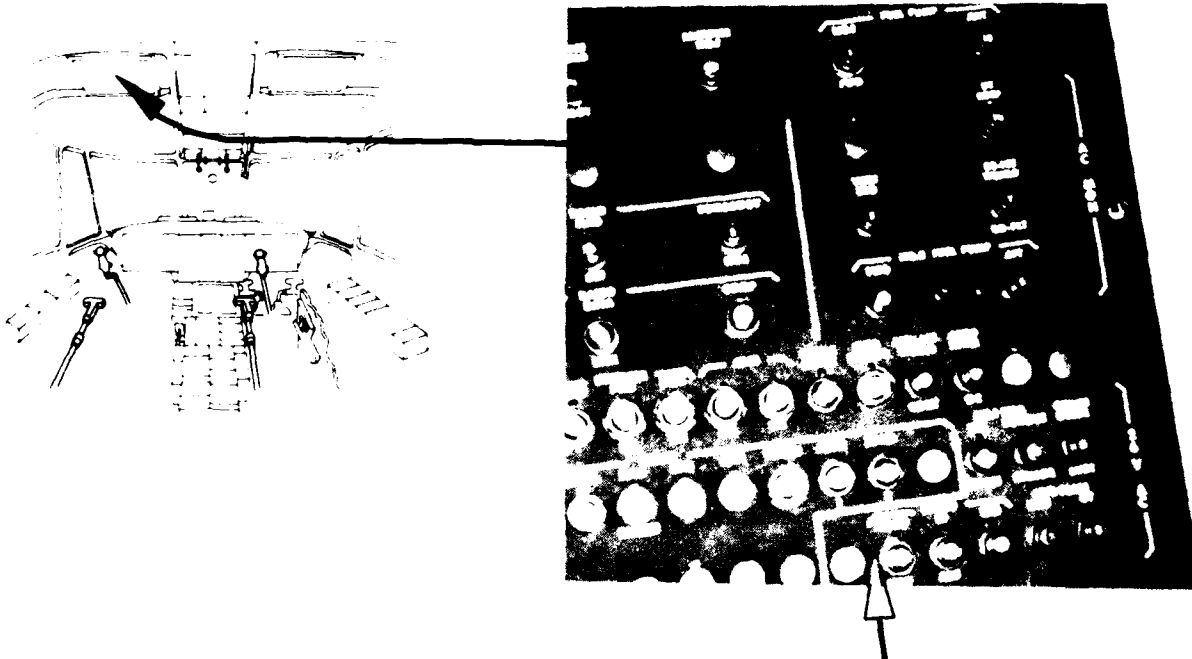
NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches CHECK



6. Action

Check copilot circuit breakers _

7. Note

Copilot to visually check pilot and center circuit breakers _

8. Voice Response

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM NO. 1. Circuit Breakers and Switches

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST (Copilot steps
1 - 8)

State in your own words the Purpose

Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

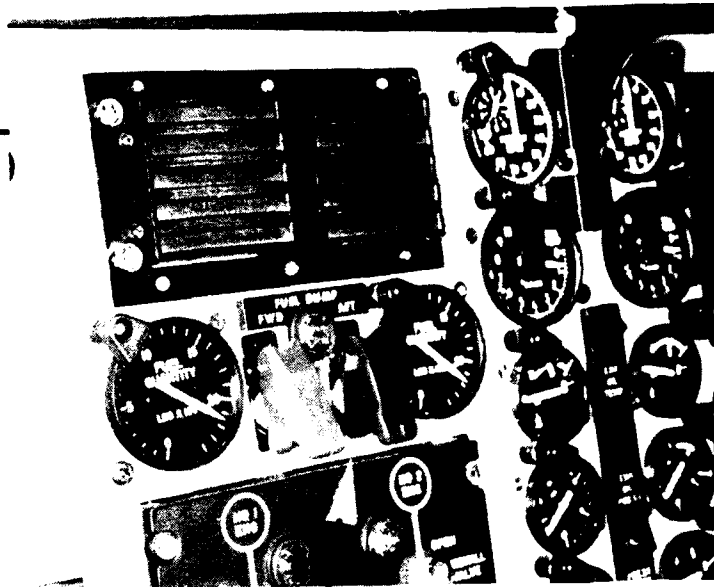
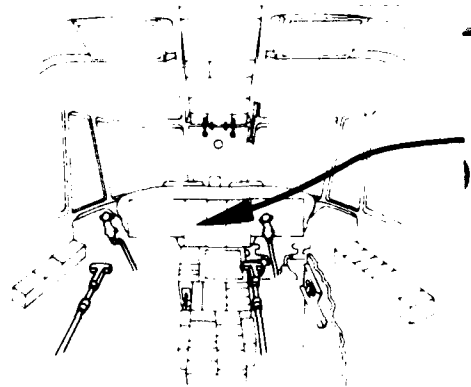
State the VOICE RESPONSE at completion of the steps

Page 34 through 49 Intentionally Left Blank

NORMAL START CHECKLIST ITEM NO. 2. Fuel Dump Switches OFF & SHEAR WIRED

Purpose:

To prevent inadvertent dumping of fuel when electrical power is applied.



1. Action

FWD and AFT FUEL DUMP switches OFF
(covers down and shear wired)

2. Note

SH-3H GROUPS A, B, and C FUEL DUMP switches are located on the instrument panel. SH-3H GROUP D and subsequent FUEL DUMP switches are located on the left side of the Center Console

3. Voice Response

"OFF and SHEAR WIRED"

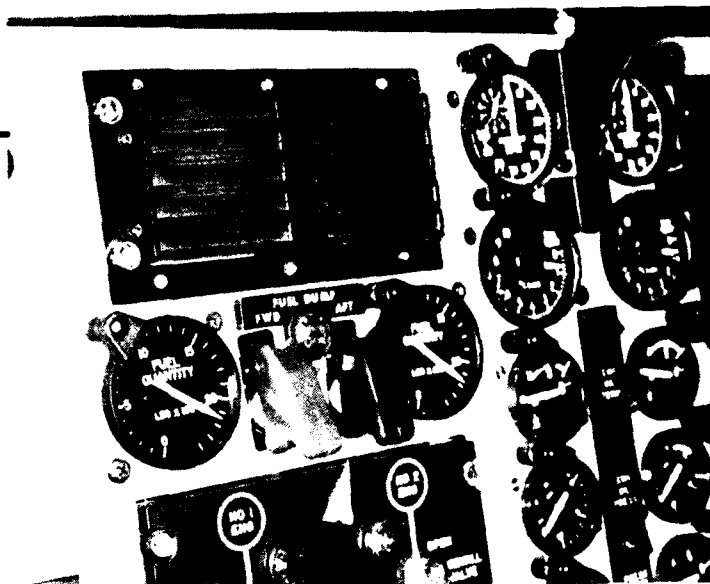
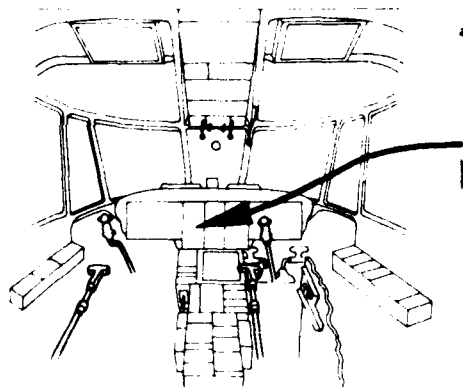
GO TO PAPER MOCK-UP

- STEP THROUGH ITEM
- TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 2. Fuel Dump Switches OFF & SHEAR WIRED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

FWD and AFT FUEL DUMP switches ____
(covers ____ and ____)

2. Note

SH-3H GROUPS A, B, and C FUEL DUMP switches are located on the instrument panel. SH-3H GROUP D and subsequent FUEL DUMP switches are located on the left side of the Center Console

3. Voice Response

____ and ____

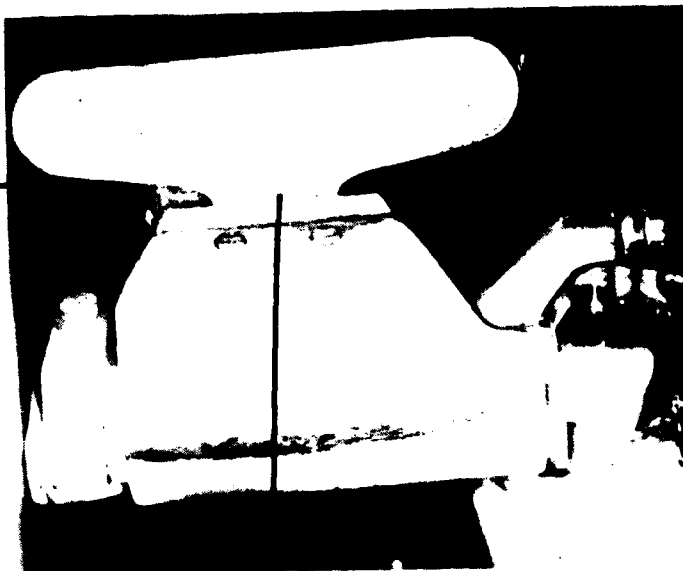
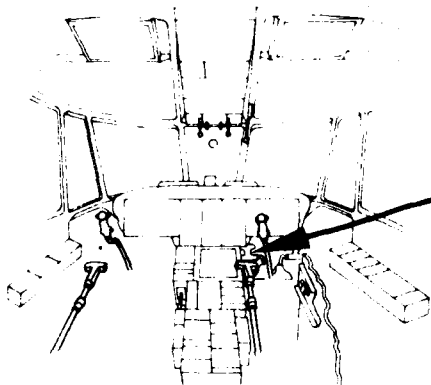
AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 3. Brakes and Tailwheel LOCKED

Purpose:

To set the parking brakes and ensure the tailwheel is locked.



1. Action

Press pilot's toe brake pedals

2. Result

PARKING BRAKE handle moves to OFF
(down)

3. Action

Hold pilot's toe brake pedals

4. CAUTION

Make sure that both toe brake pedals are pressed firmly when setting the parking brake



GO TO PAPER MOCK-UP

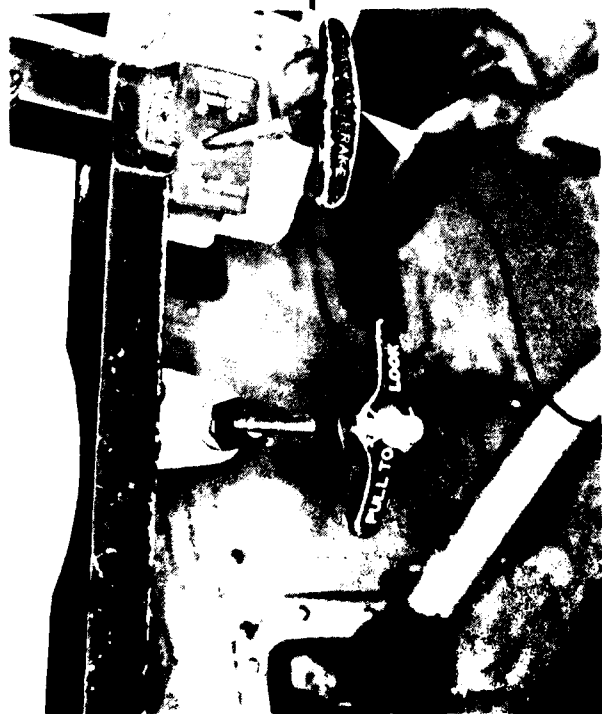
• STEP THROUGH ITEM

TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 3. Brakes and Tailwheel LOCKED

Purpose:

To set the parking brakes and ensure the tailwheel is locked.



5. Action
Pull PARKING BRAKE handle to ON (out)
and HOLD

6. Action
Release pilot's toe brake pedals

7. Action
Release PARKING BRAKE handle

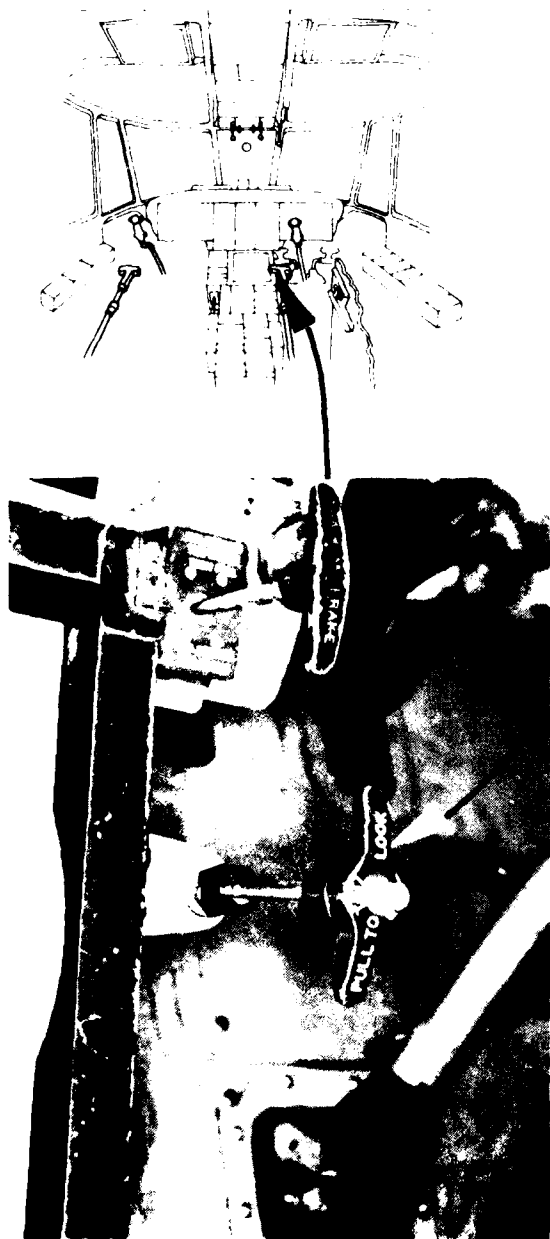
8. Result
PARKING BRAKES are set

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 3. Brakes and Tailwheel LOCKED

Purpose:

To set the parking brakes and ensure the tailwheel is locked.



9. Action

Verify that the TAIL WHL PULL TO LOCK handle is in LOCK (up)

10. IF
Handle is DOWN
THEN

Depress button in center of handle and handle will spring up; then pull handle up to insure it is locked

11. Voice Response

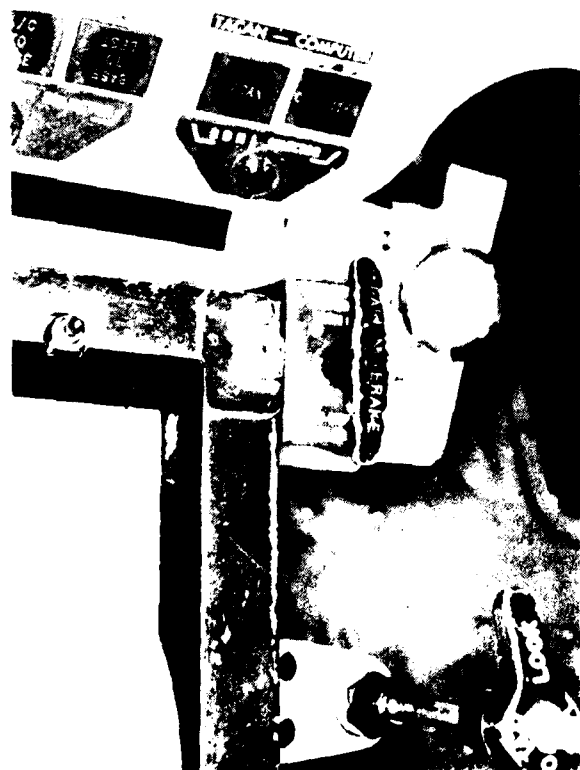
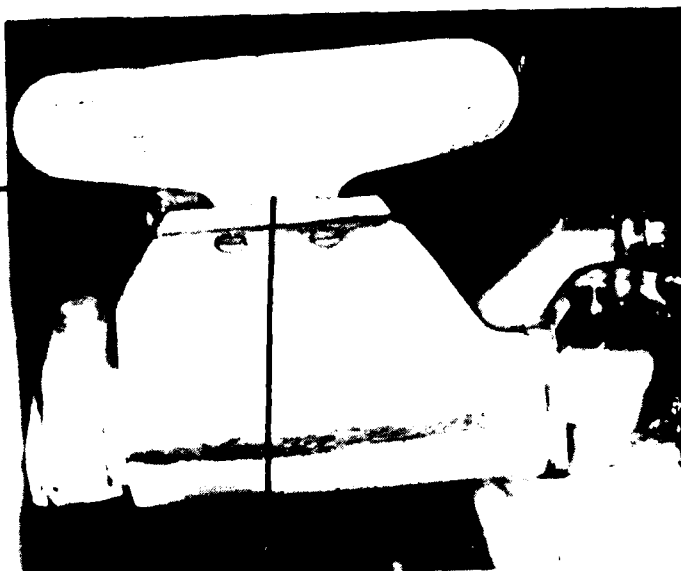
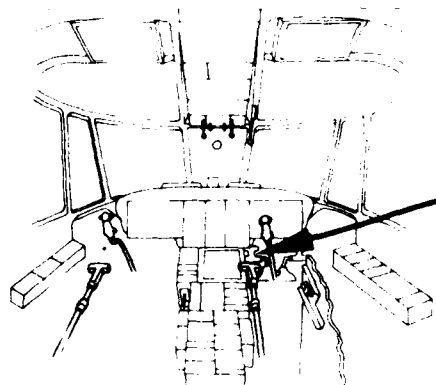
"LOCKED"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 3. Brakes and Tailwheel LOCKED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Press pilot's toe brake pedals

2. Result

PARKING BRAKE handle moves to ____
(____)

3. Action

Hold pilot's toe brake pedals

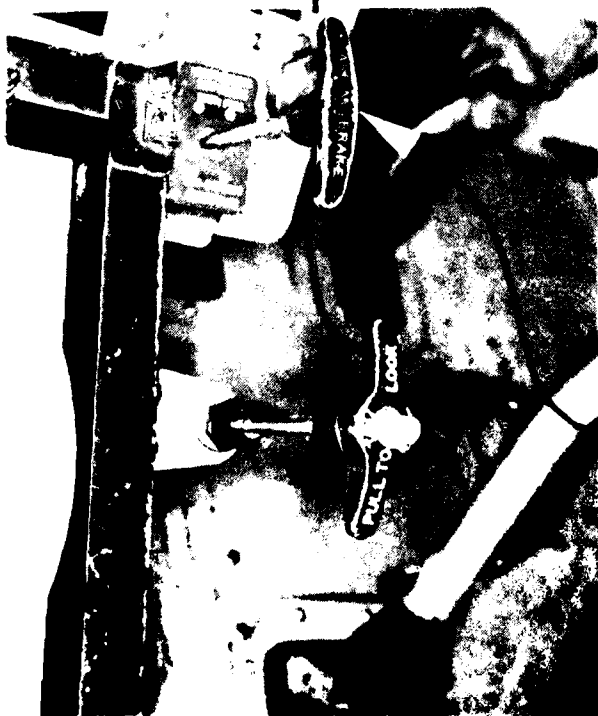
4. CAUTION

Make sure that ____ toe brake
pedals are pressed firmly when
setting the parking brake

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 3. Brakes and Tailwheel LOCKED



5. Action
Pull PARKING BRAKE handle to _ (_)
and _

6. Action
_ pilot's toe brake pedals

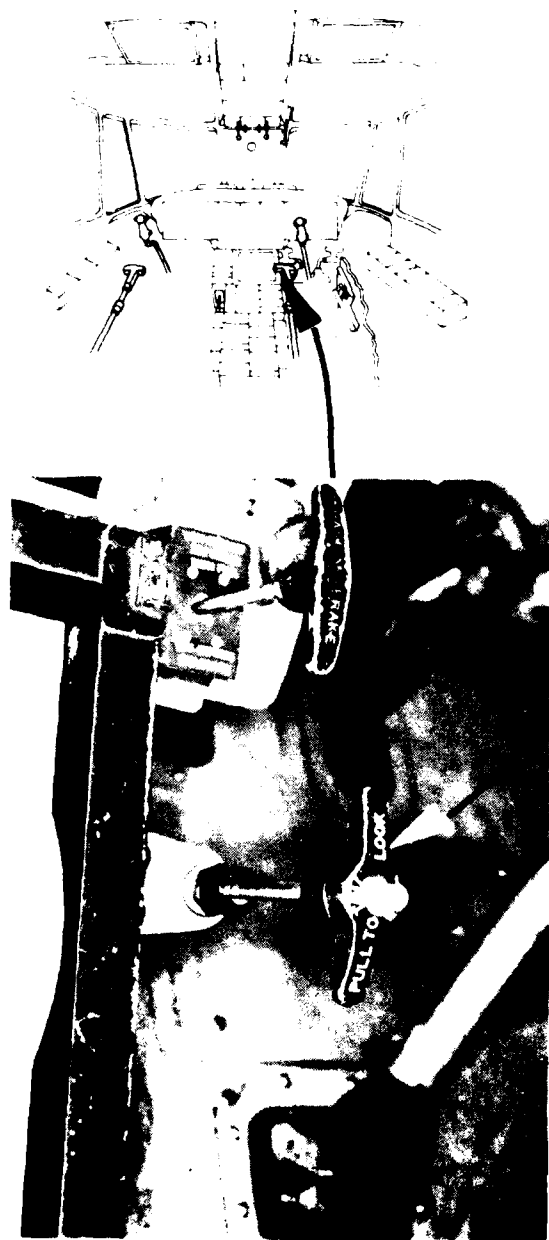
7. Action
_ PARKING BRAKE handle

8. Result
PARKING BRAKES are _

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 3. Brakes and Tailwheel LOCKED



9. Action

Verify that the TAIL WHL PULL TO LOCK handle is in ____ ()

10. IF

Handle is ____

THEN

Depress button in center of handle and handle will spring up; then pull handle up to insure it is locked

11. Voice Response

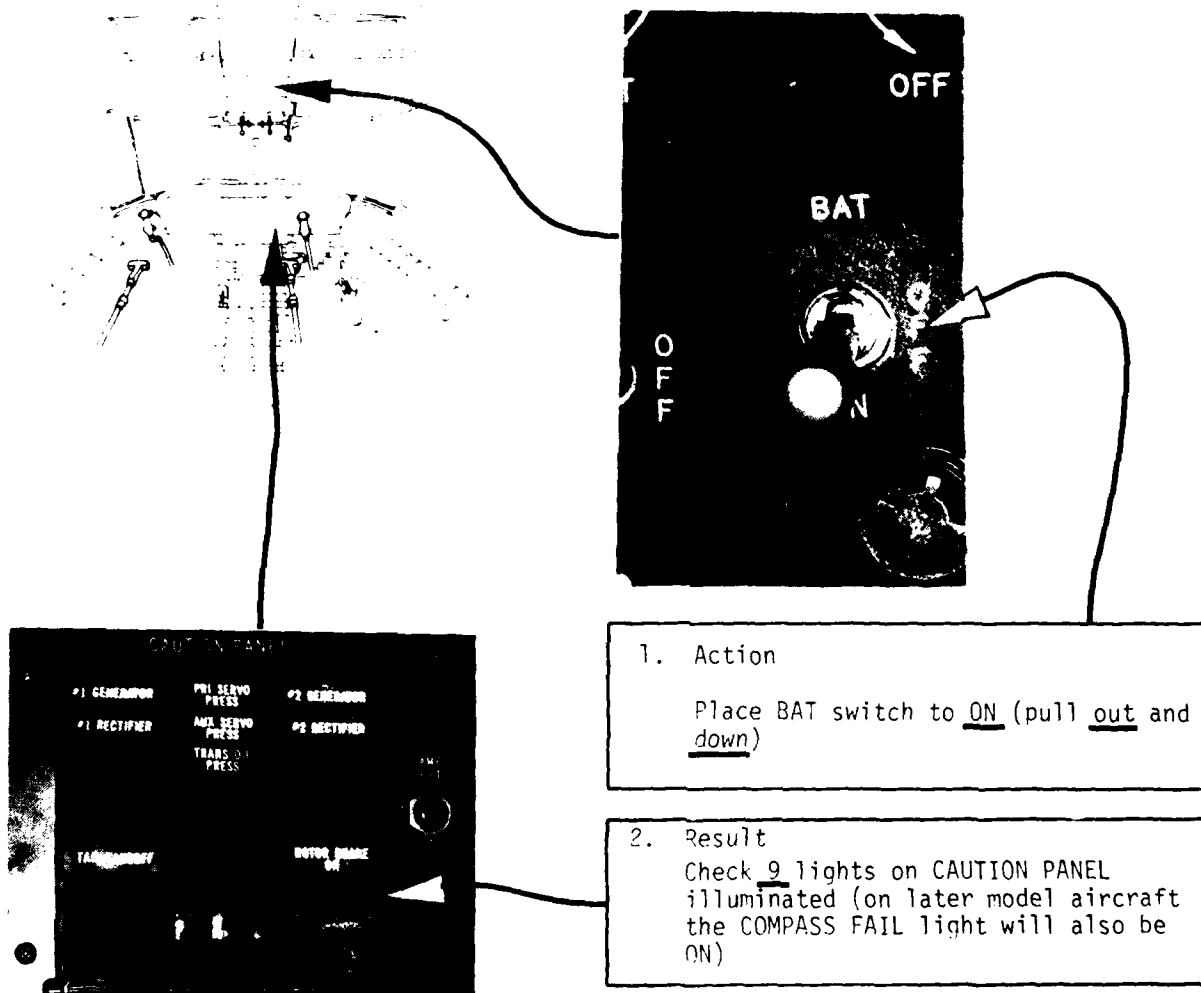
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 4. Battery Switch ON

Purpose:

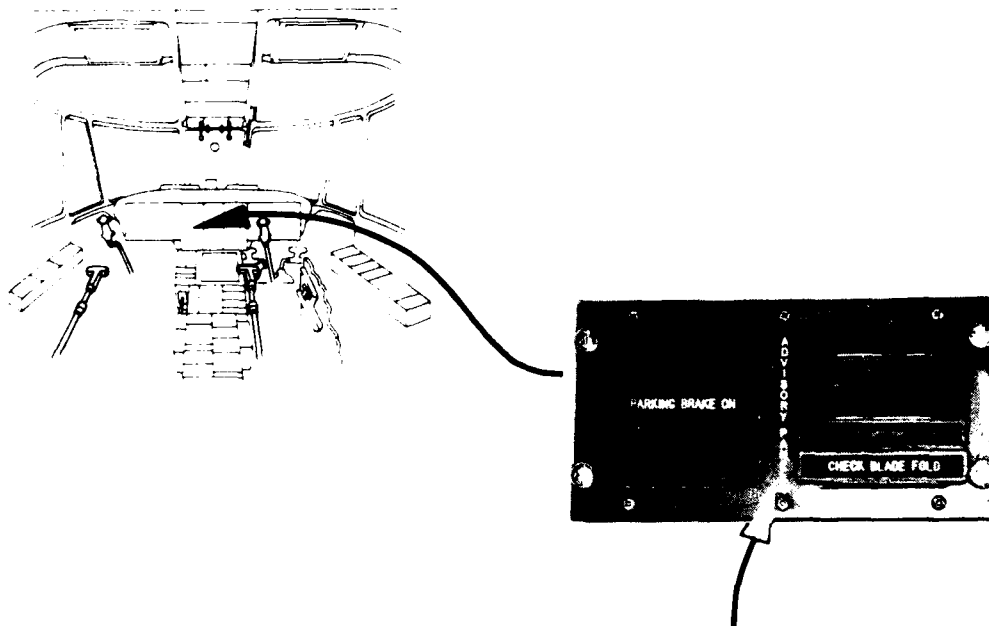
The main purpose for turning the Battery Switch ON is to apply power to the external power contactor relay to accept external electrical power.



GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 4. Battery Switch ON

Purpose: The main purpose for turning the Battery Switch ON is to apply power to the external power contactor relay to accept external electrical power.



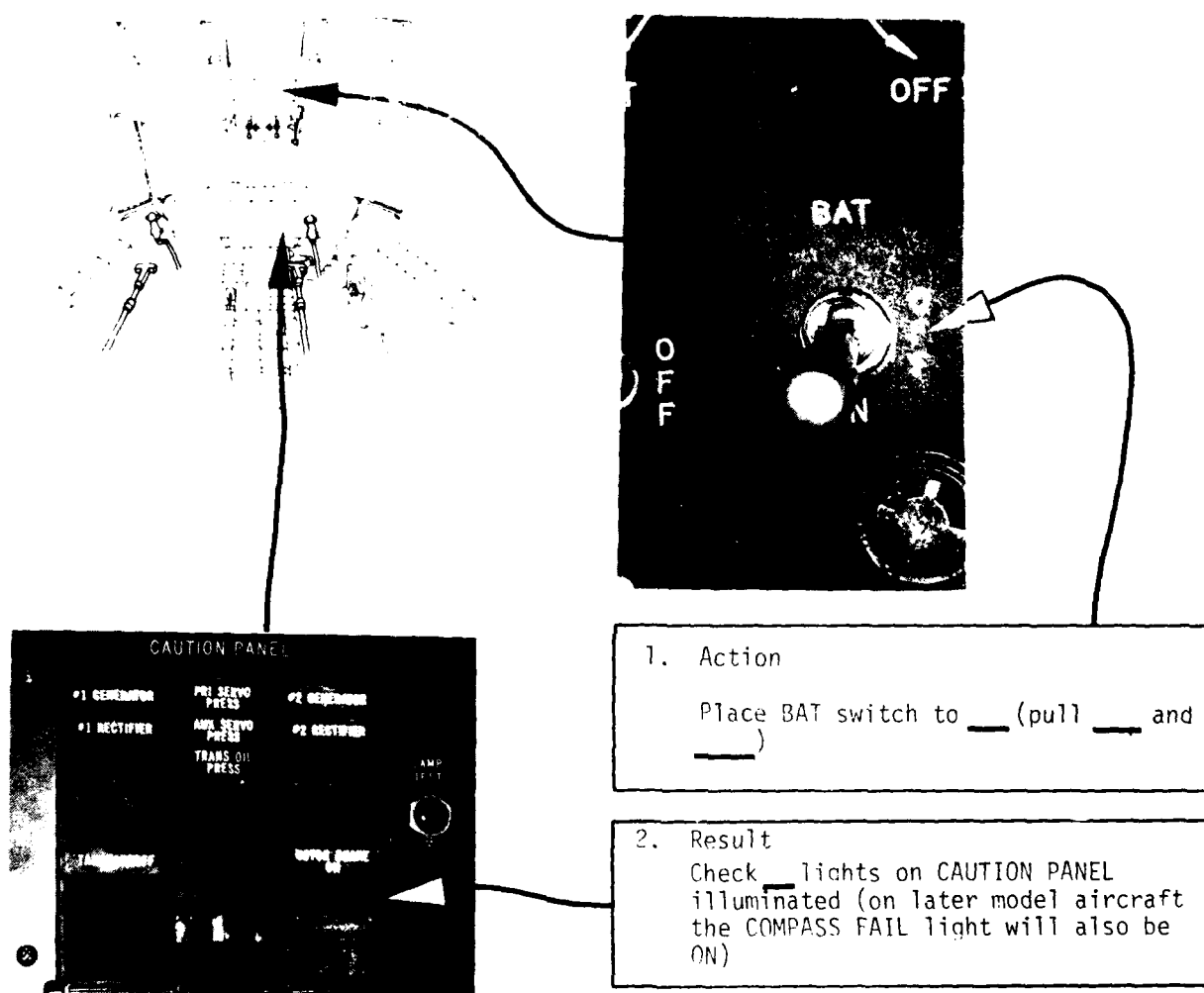
3. Result
Two Advisory lights will illuminate if Blades are folded (PARKING BRAKE ON, CHECK BLADE FOLD), only PARKING BRAKE if blades are spread; EXT PWR light may be on

4. Voice Response

"ON"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

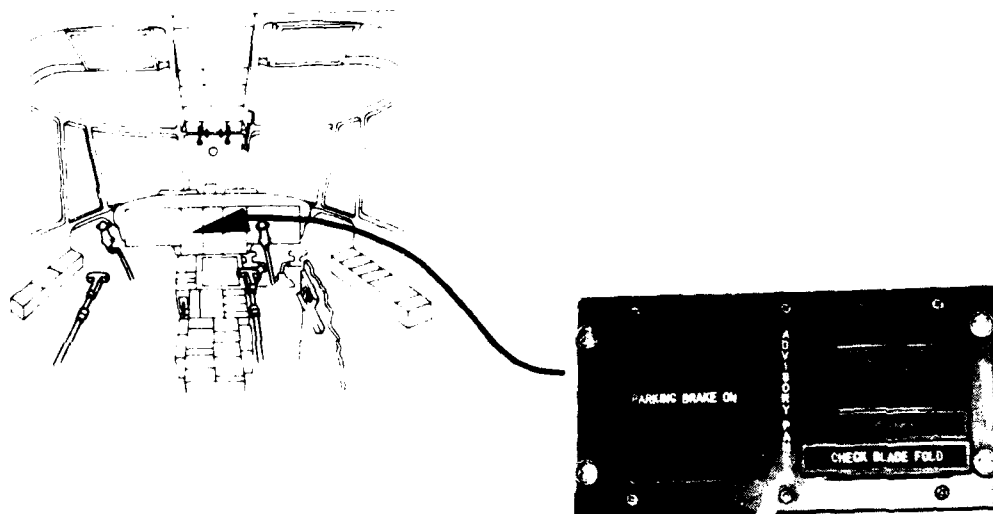
NORMAL START CHECKLIST ITEM NO. 4. Battery Switch ON



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 4. Battery Switch ON



3. Result
Advisory lights will illuminate if blades are folded (PARKING BRAKE ON, CHECK BLADE FOLD), only PARKING BRAKE if blades are spread; EXT PWR light may be on

4. Voice Response

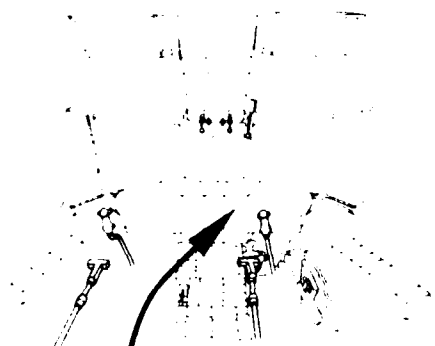
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 5. External Power CONNECTED

Purpose:

To connect AC external power to the helicopter electrical system.



1. Action

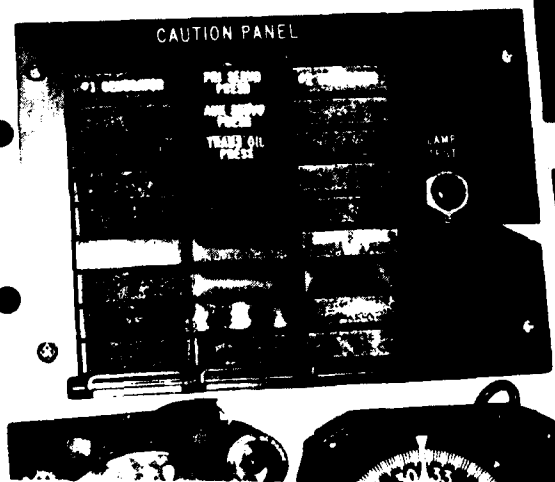
Pilot gives hand signal to connect external power

2. Result

Plane Captain gives Connect AC power signal; Power crew connects AC power to helicopter receptacle

3. Result

6 Caution lights remain ON
(#1 and #2 Rectifier lights going out is a positive indication of external power connected)



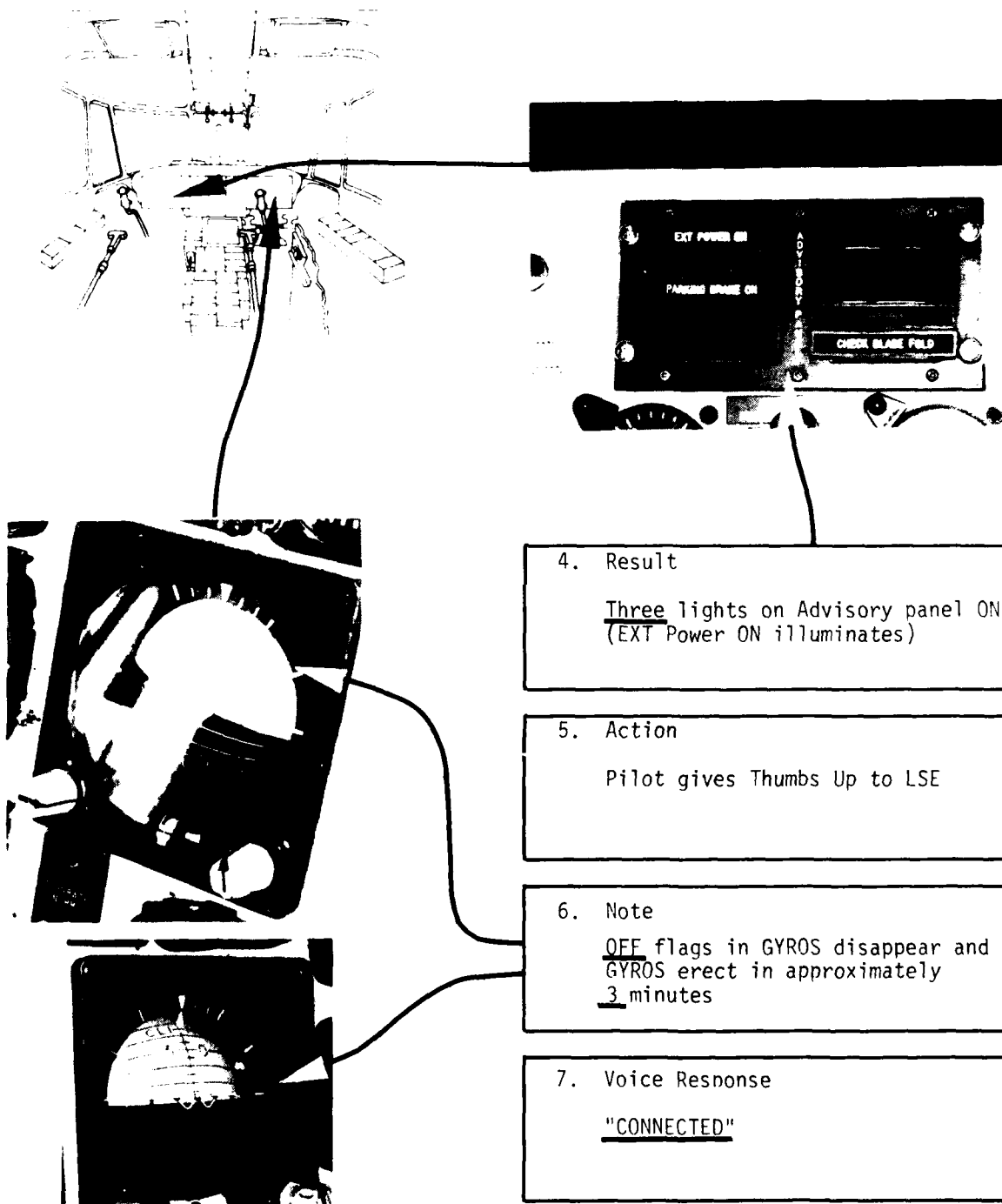
GO TO PAPER MOCK-UP

- STEP THROUGH ITEM
- TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 5. External Power CONNECTED

Purpose:

To connect AC external power to the helicopter electrical system.

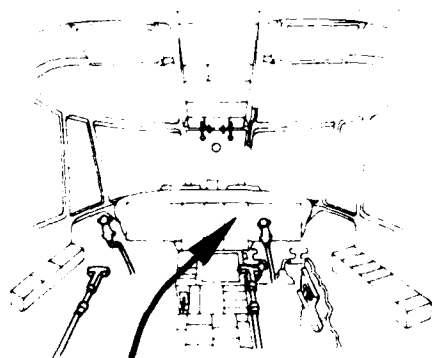


GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 5. External Power CONNECTED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

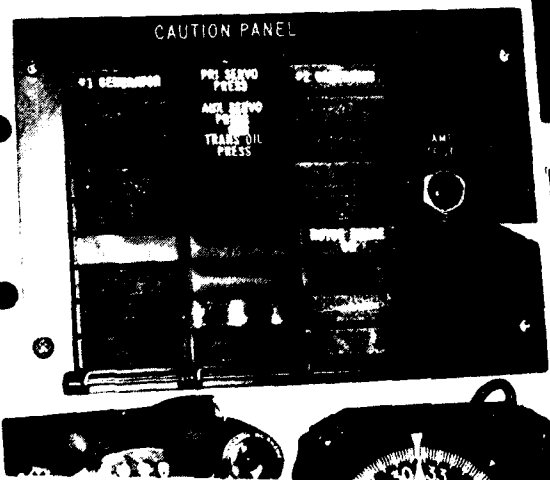
Pilot gives hand _____ to connect external power

2. Result

Plane Captain gives Connect AC power signal; Power crew connects AC power to helicopter receptacle

3. Result

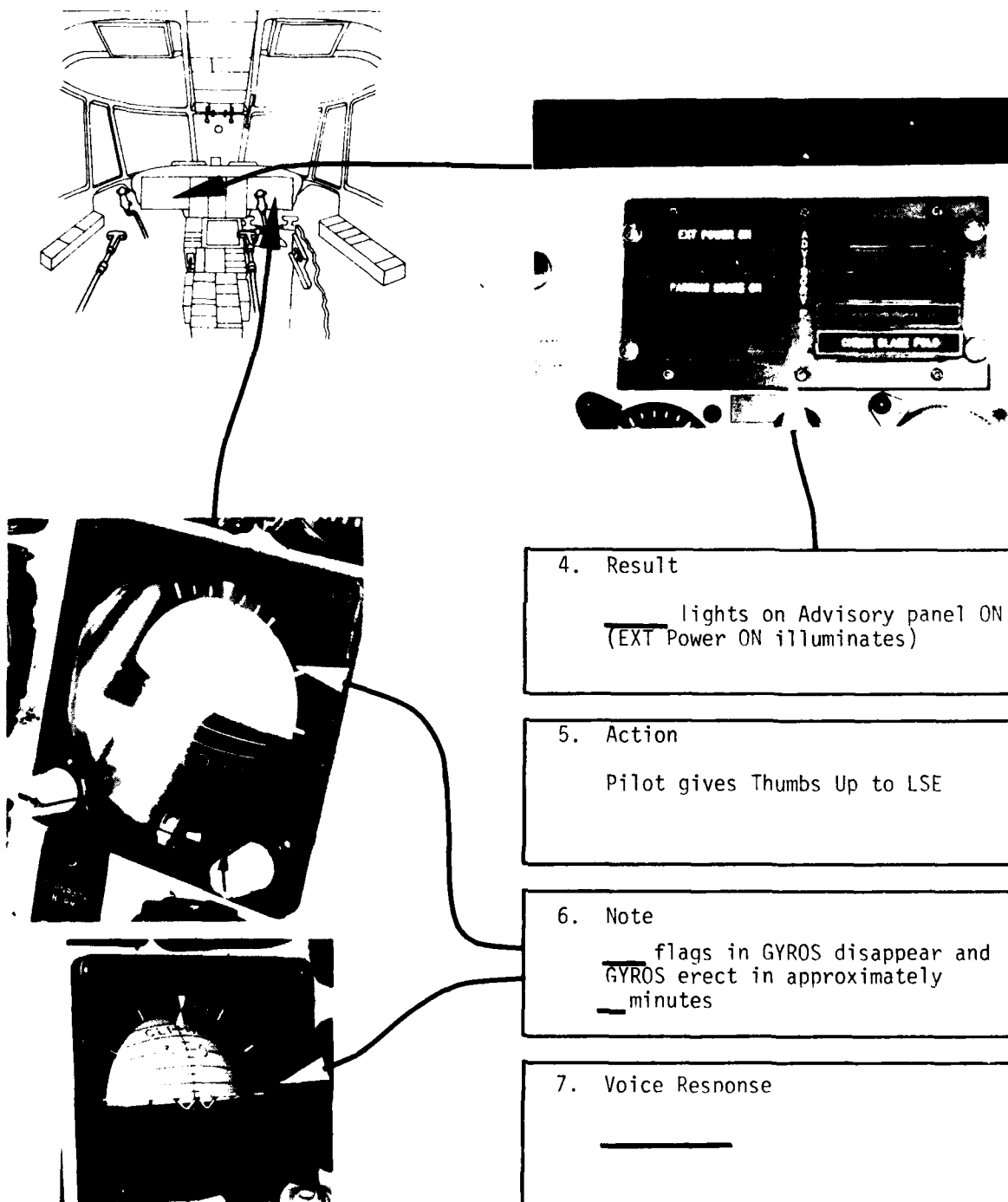
Caution lights remain ON (#1 Rectifier, #2 Rectifier and Tail Takeoff lights go OFF)



AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 5. External Power CONNECTED



4. Result

___ lights on Advisory panel ON
(EXT Power ON illuminates)

5. Action

Pilot gives Thumbs Up to LSE

6. Note

___ flags in GYROS disappear and
GYROS erect in approximately
___ minutes

7. Voice Response

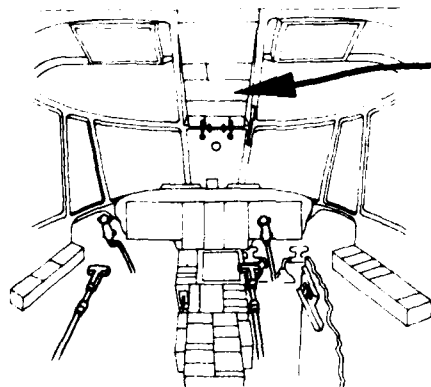
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 6. Battery Switch OFF

Purpose:

To prevent overcharging the battery with external electrical power applied.



1. Action

Pilot pull Battery switch out and
up to OFF

2. Voice Response

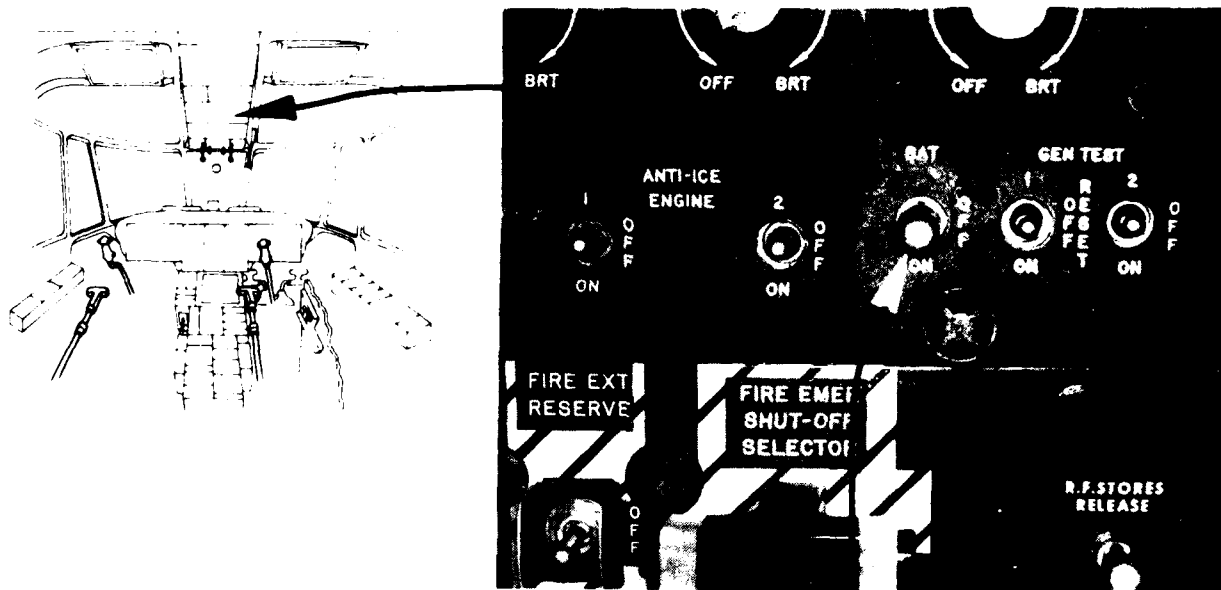
"OFF"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 6. Battery Switch OFF

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER – NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Pilot pull Battery switch ____ and
____ to ____

2. Voice Response

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM 2 THROUGH ITEM 6

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST

State in your own words the Purpose for each ITEM

Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

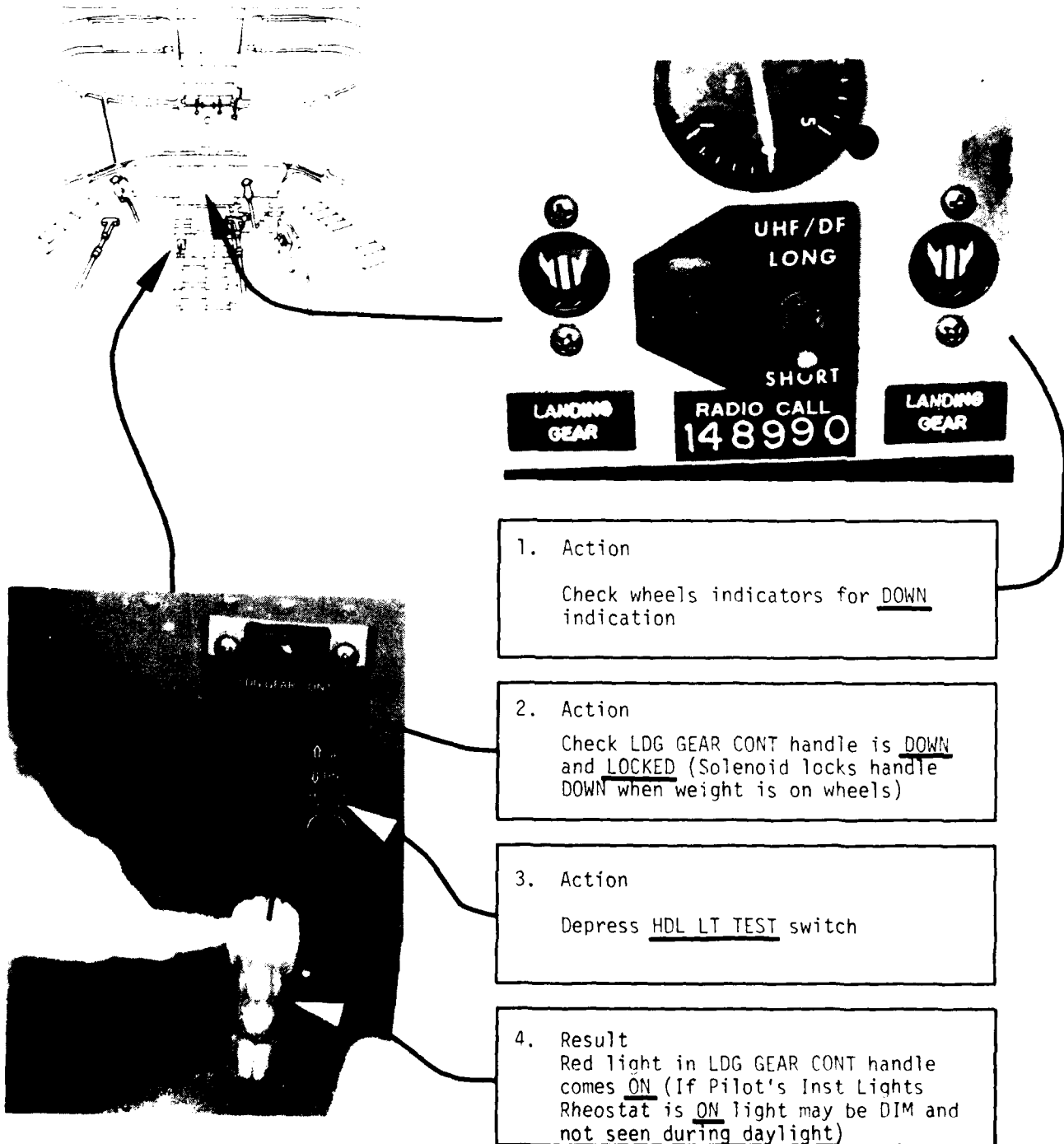
State the VOICE RESPONSE at completion of the steps

PAGES 68 THROUGH 77 INTENTIONALLY LEFT BLANK

NORMAL START CHECKLIST ITEM NO. 7. Landing Gear CHECK

Purpose:

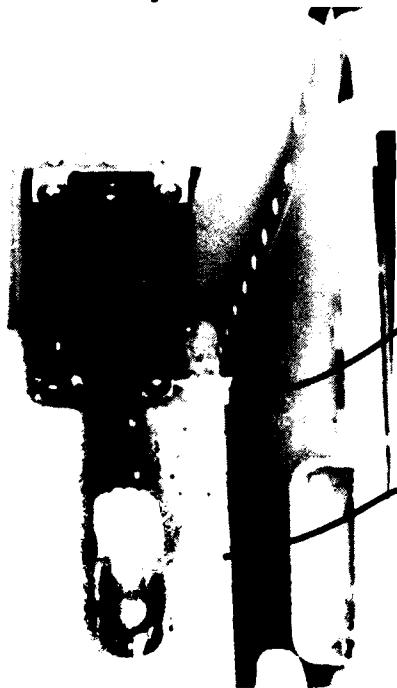
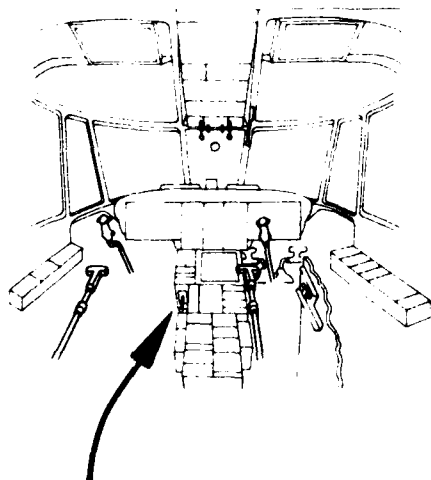
To ensure that landing gear is down and emergency system is properly set.



GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 7. Landing Gear CHECK

Purpose: To ensure that landing gear is down and emergency system is properly set.



5. Action

Release HDL LT TEST switch

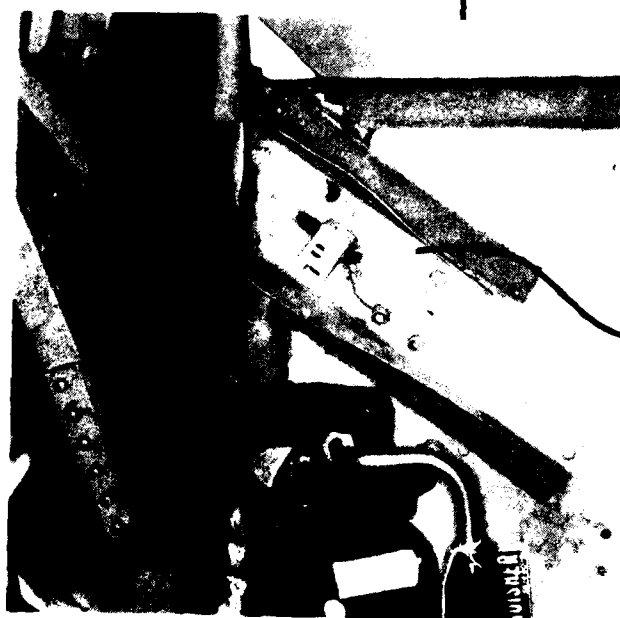
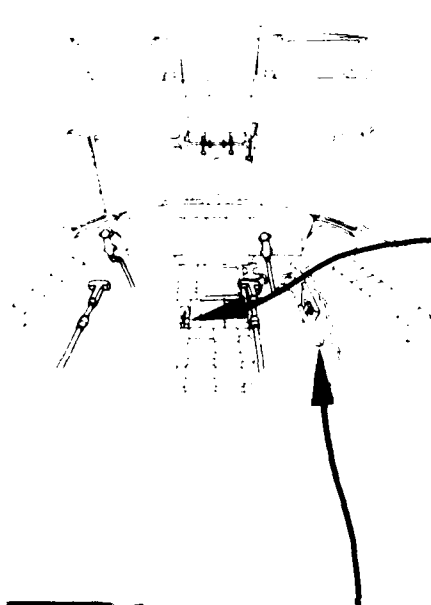
6. Result

Light in LDG GEAR CONT handle goes OUT

GO TO PAPER MOCK-UP : STEP THROUGH ITEM TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 7. Landing Gear CHECK

Purpose: To ensure that landing gear is down and emergency system is properly set.



7. Action

Verify Emergency Landing Gear Handle DOWN, facing fore and aft, and shear wired

8. Action

Verify Emergency Landing Gear Release lever AFT, and shear wired (located on side of Broom Closet behind pilot's compartment)

9. Voice Response

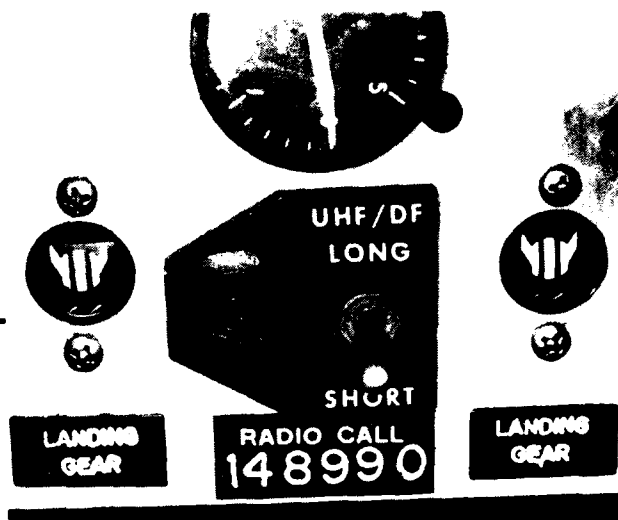
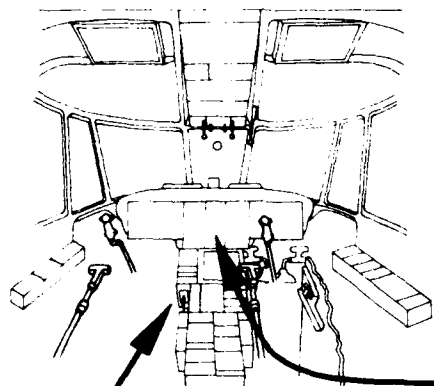
"CHECK"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 7. Landing Gear CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Check wheels indicators for _____ indication

2. Action

Check LDG GEAR CONT handle is _____ and _____ (Solenoid locks handle DOWN when weight is on wheels)

3. Action

Depress _____ switch

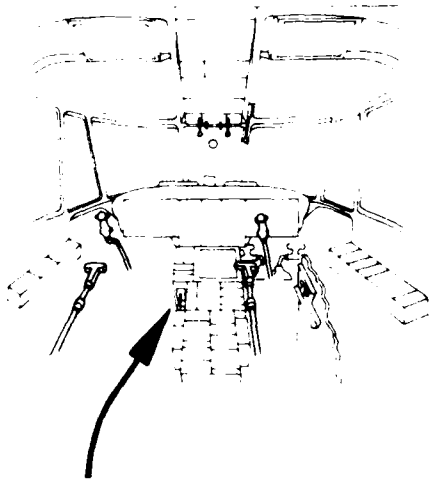
4. Result

Red light in LDG GEAR CONT handle comes _____ (If Pilot's Inst Lights Rheostat is _____ light may be DIM and not seen during daylight)

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO.7. Landing Gear CHECK



5. Action

_____ HDL LT TEST switch

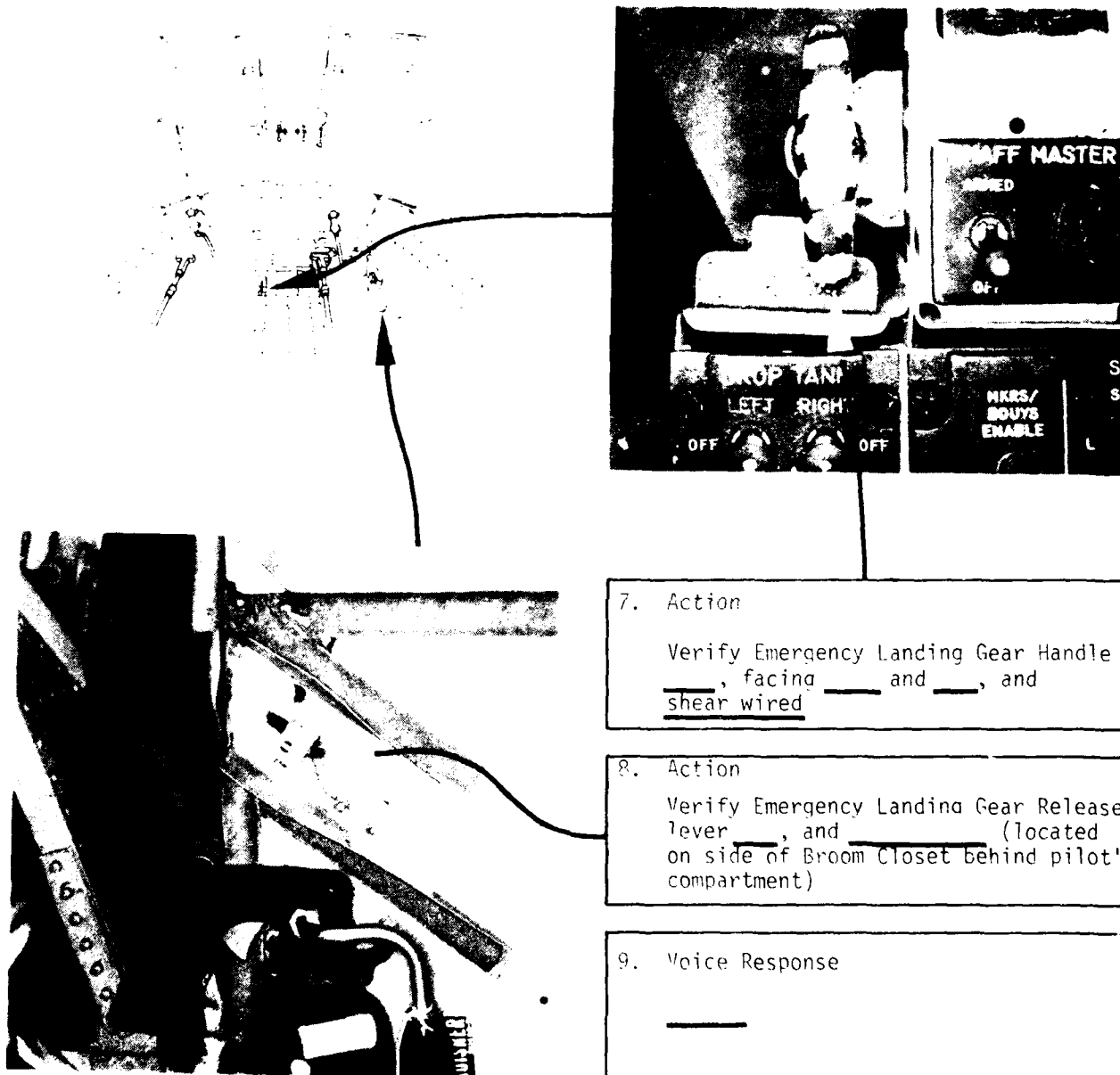
6. Result

Light in LDG GEAR CONT handle goes

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 7. Landing Gear CHECK



7. Action

Verify Emergency Landing Gear Handle
 , facing and , and
shear wired

8. Action

Verify Emergency Landing Gear Release
 lever , and (located
 on side of Broom Closet behind pilot's
 compartment)

9. Voice Response

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
 RECALL WHAT TO DO WITHOUT HESITATING

AD-A113 171 TRAINING ANALYSIS AND EVALUATION GROUP (NAVY) ORLANDO FL F/6 5/9
PROCEDURE TRAINING AID FOR THE SH-3D/H NORMAL START CHECKLIST.(U)

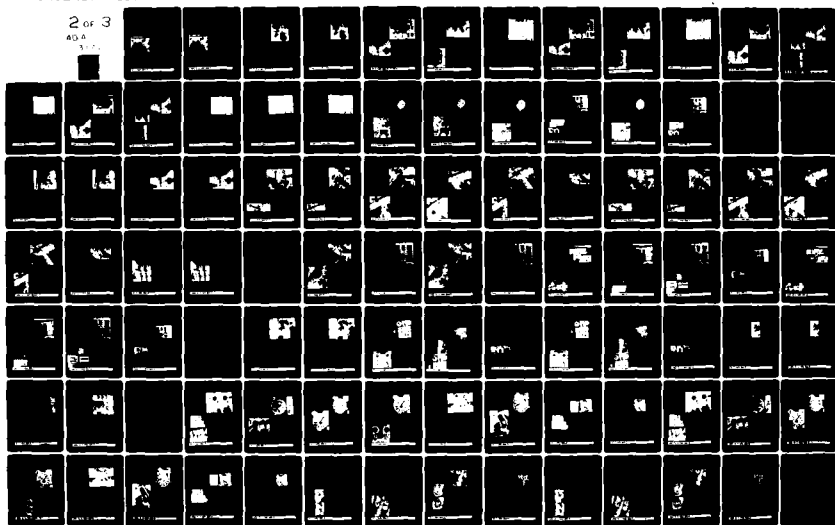
FEB 82 R BRABY, P G SCOTT

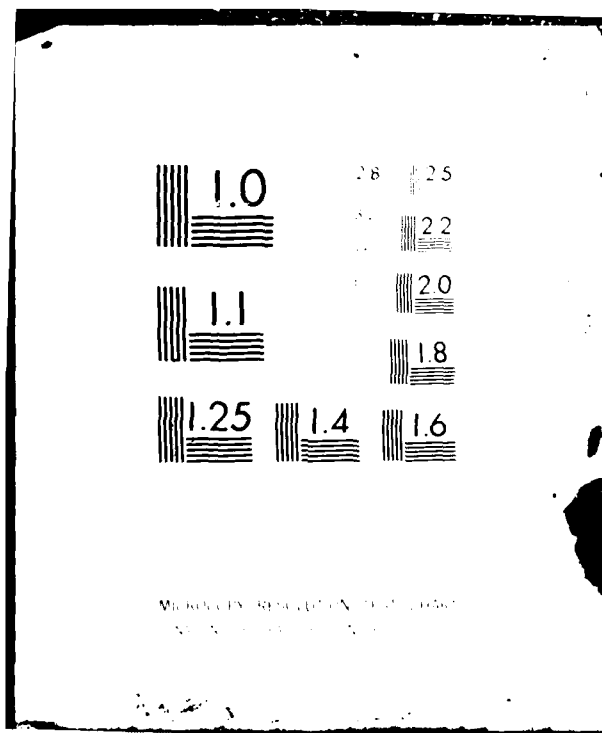
UNCLASSIFIED TAE6-TM-82-1

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2 of 3

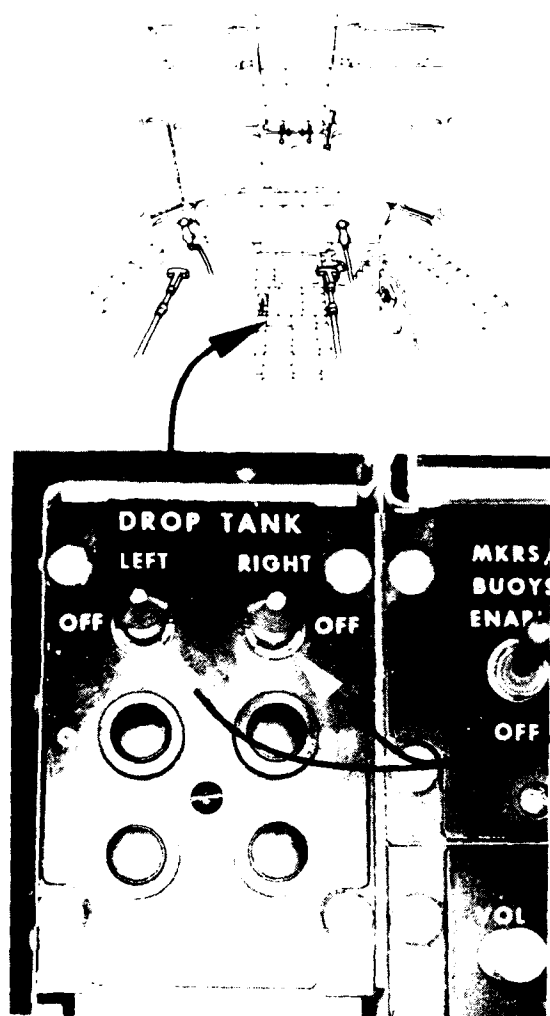
ADA





NORMAL START CHECKLIST ITEM NO. 8. Drop Tank Switch Panel (SH-3H) CHECK

Purpose: To control fuel transfer from the DROP TANKS (SH-3H Groups A, B, and C)



1. Action

LEFT and RIGHT DROP TANK switches normally to OFF (forward)

2. Note

This panel installed on SH-3H Groups A, B, and C ONLY. Not installed on Group D and subsequent

3. Voice Response

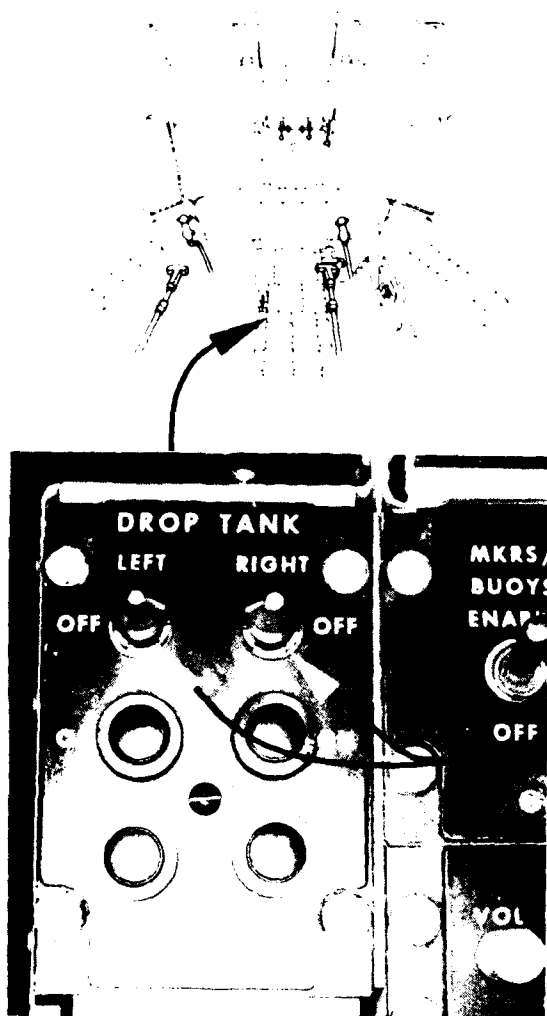
"CHECK"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 8. Drop Tank Switch Panel (SH-3H) CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

LEFT and RIGHT DROP TANK switches normally to _____

2. Note

This panel installed on SH-3H Groups A, B, and C ONLY. Not installed on Group D and subsequent

3. Voice Response

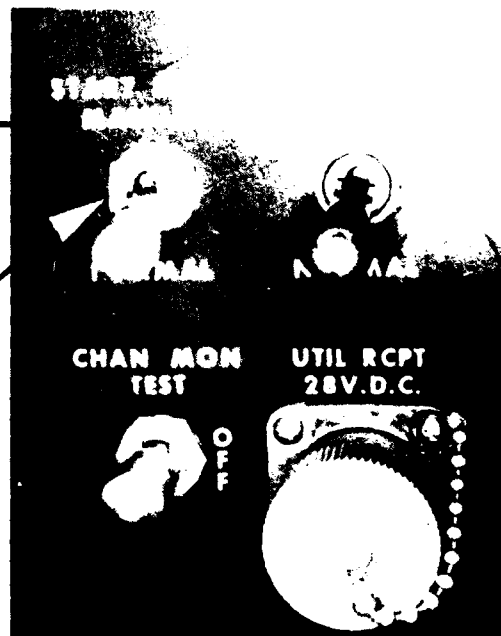
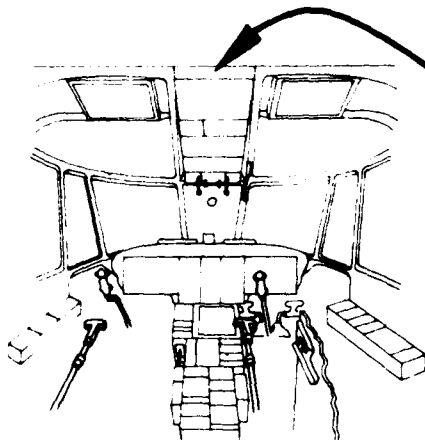
AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 9. Start Mode Switch AS REQUIRED

Purpose:

To provide automatic dropout of the starter at about 45% Ng when the START MODE switch is in NORMAL.



1. Action

Verify START MODE Switch in NORMAL

2. Voice Response

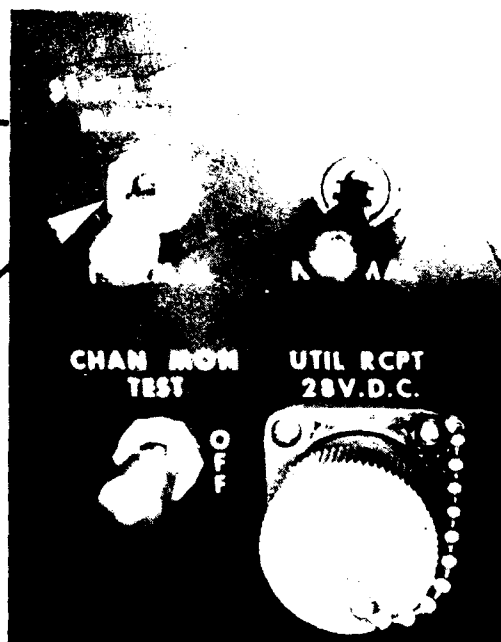
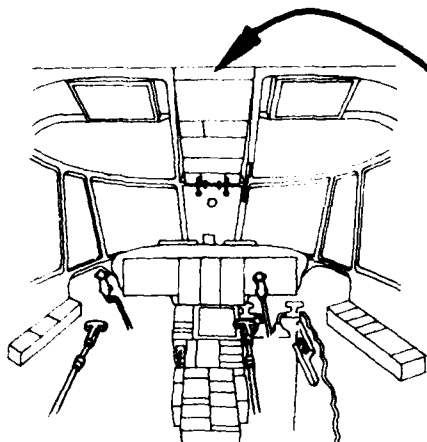
"AS REQUIRED"

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 9. Start Mode Switch AS REQUIRED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Verify START MODE Switch in _____

2. Voice Response

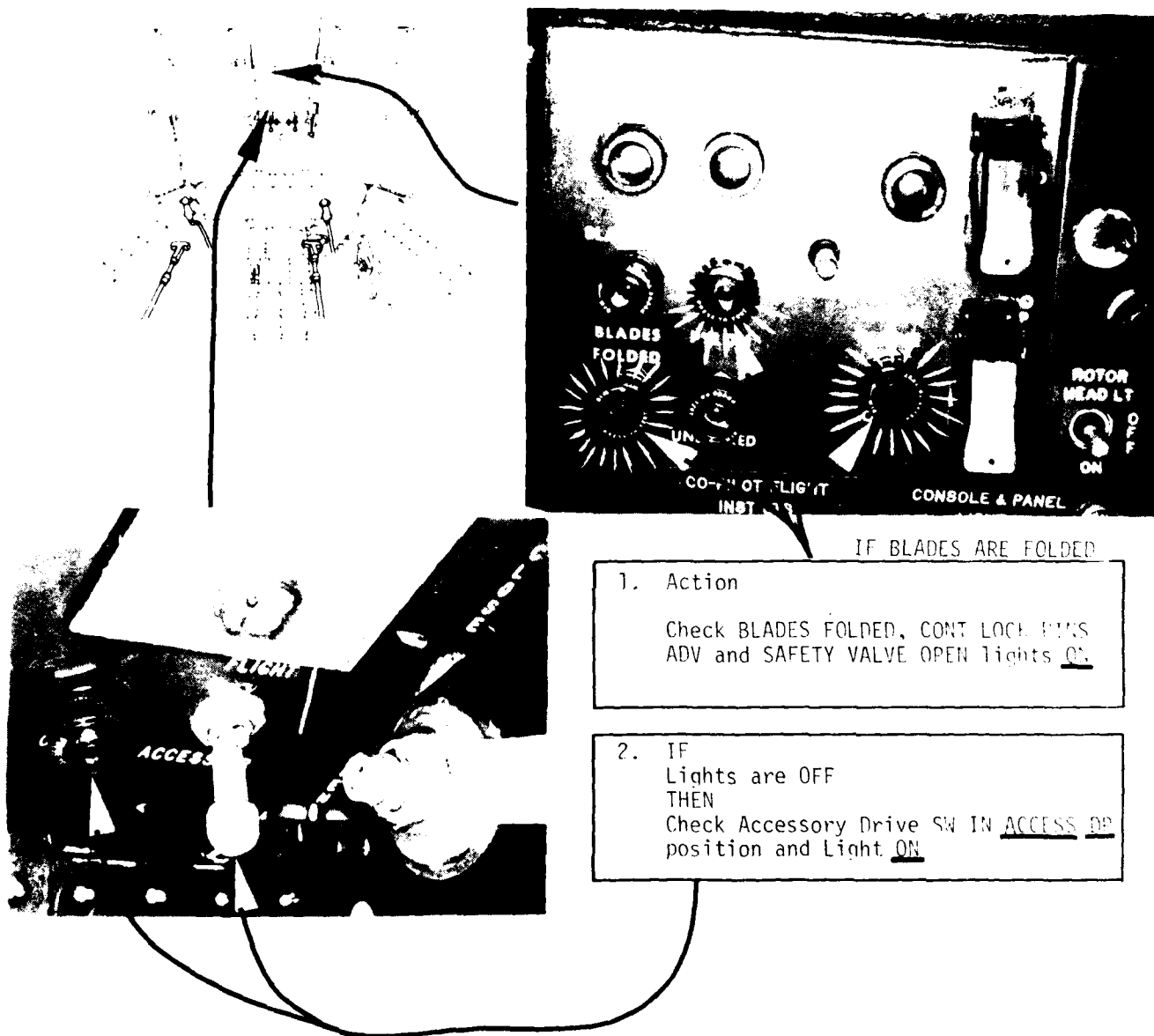
AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



GO TO PAPER MOCK-UP

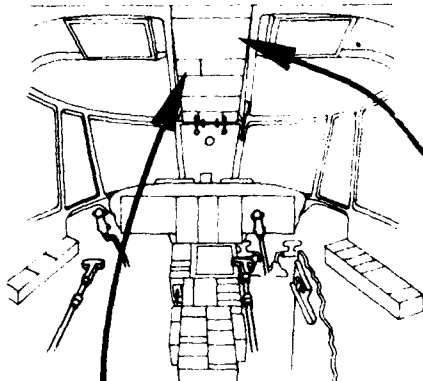
- STEP THROUGH ITEM
- TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

Purpose:

IF BLADES ARE FOLDED

To ensure that the Blade Panel, Hoist and Beeper Trip Switches are set for start.



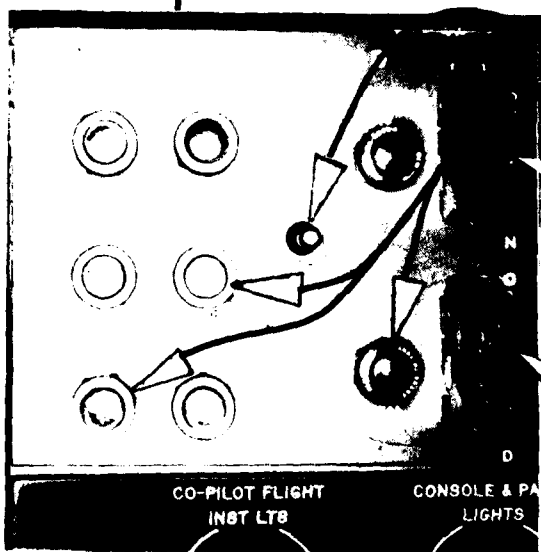
IF BLADES ARE FOLDED

3. IF
Accessory Drive Switch is in ACCESS DR
position and lights are OFF
THEN
Check BLADE FOLD circuit breaker, reset
if necessary

4. IF
Lights are still out PRESS TO TEST.
If lamps are OK
THEN
Call maintenance

5. Action
Press to Test No. 1 BLADE POS, BLADES
SPREAD, FLIGHT POS, PYLON UNLOCKED and
FOLD PWR ON lights

6. Action
Check SAFETY VALVE Cover Down
MASTER Switch Cover Down
Fold Pwr light off.
Blade Fold Switch OFF (Center position)



GO TO PAPER MOCK-UP

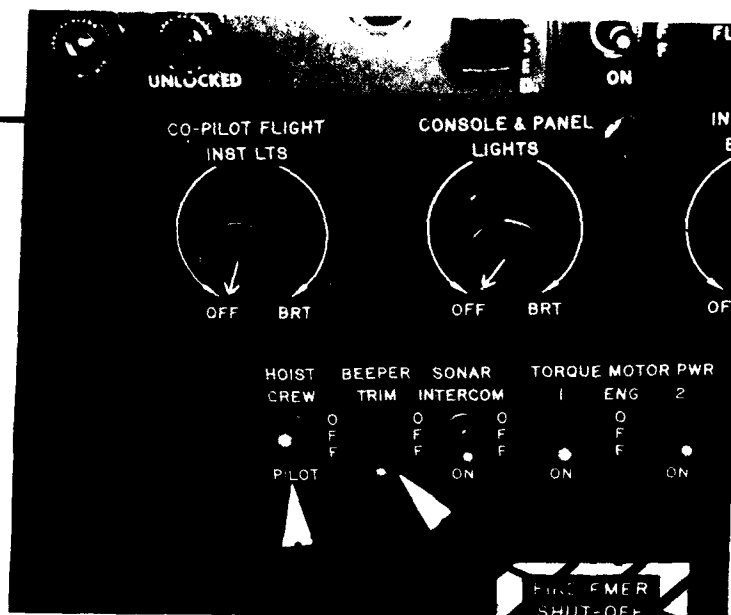
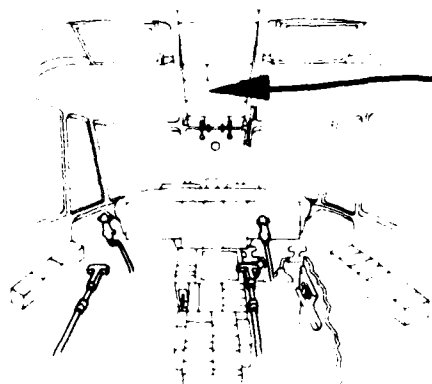
• STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

Purpose:

IF BLADES ARE FOLDED

To ensure that the Blade Panel, Hoist and Beeper Trim Switches are set



IF BLADES ARE FOLDED

7. Action

HOIST switch to CREW (up)

8. Action

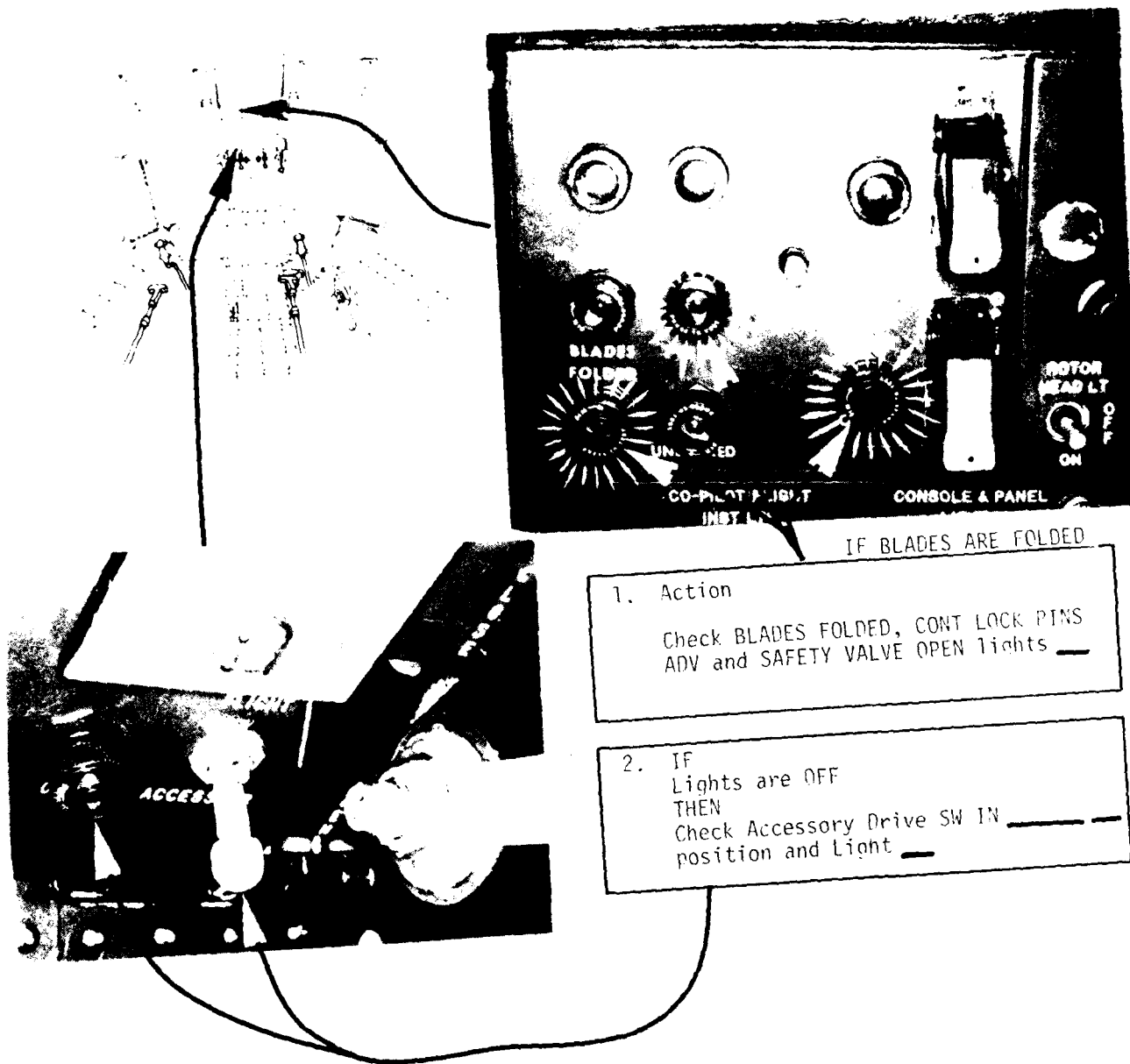
BEEPER TRIM switch to ON (down)

9. Voice Response

"CHECK"

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

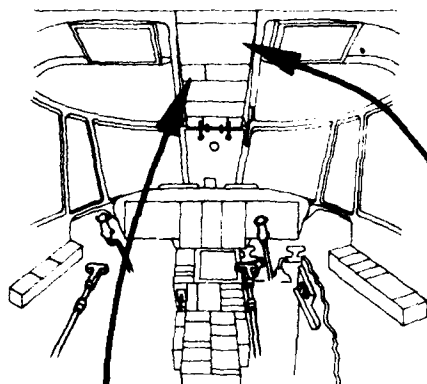


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

Purpose:



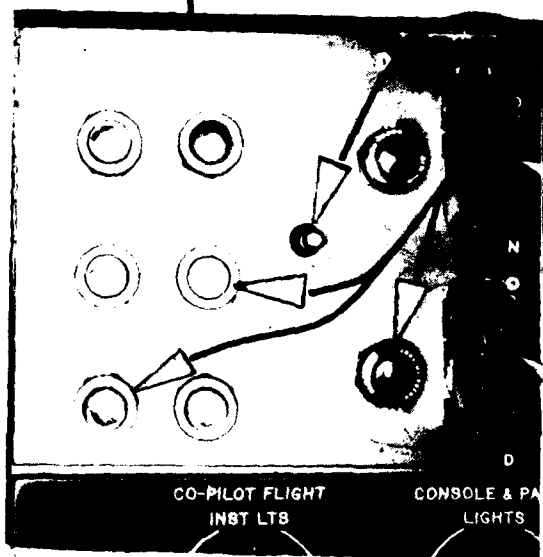
IF BLADES ARE FOLDED

3. IF
Accessory Drive Switch is in ACCESS DR
position and lights are OFF
THEN
Check _____ circuit breaker, reset
if necessary

4. IF
Lights are still out _____
If lamps are OK
THEN
Call _____

5. Action
_____ No. 1 BLADE POS, BLADES
SPREAD, FLIGHT POS, PYLON UNLOCKED and
FOLD PWR ON lights

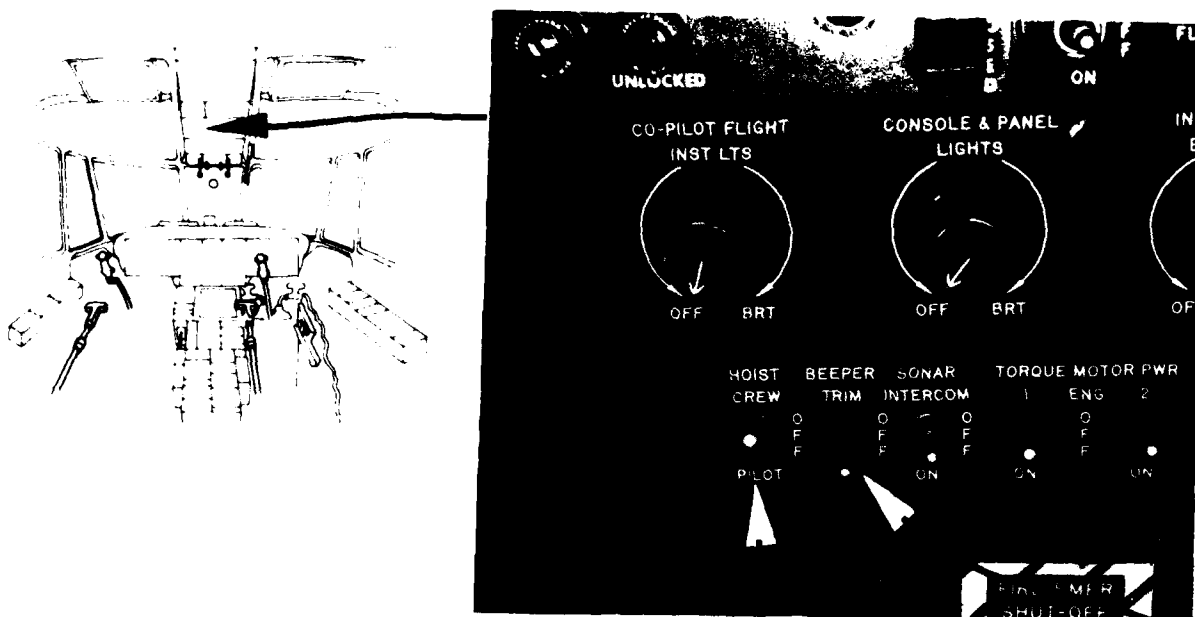
6. Action
Check SAFETY VALVE _____
MASTER Switch _____
Fold Pwr light _____
Blade Fold Switch _____)



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK



IF BLADES ARE FOLDED

7. Action

HOIST switch to ()

8. Action

BEEPER TRIM switch to ()

9. Voice Response

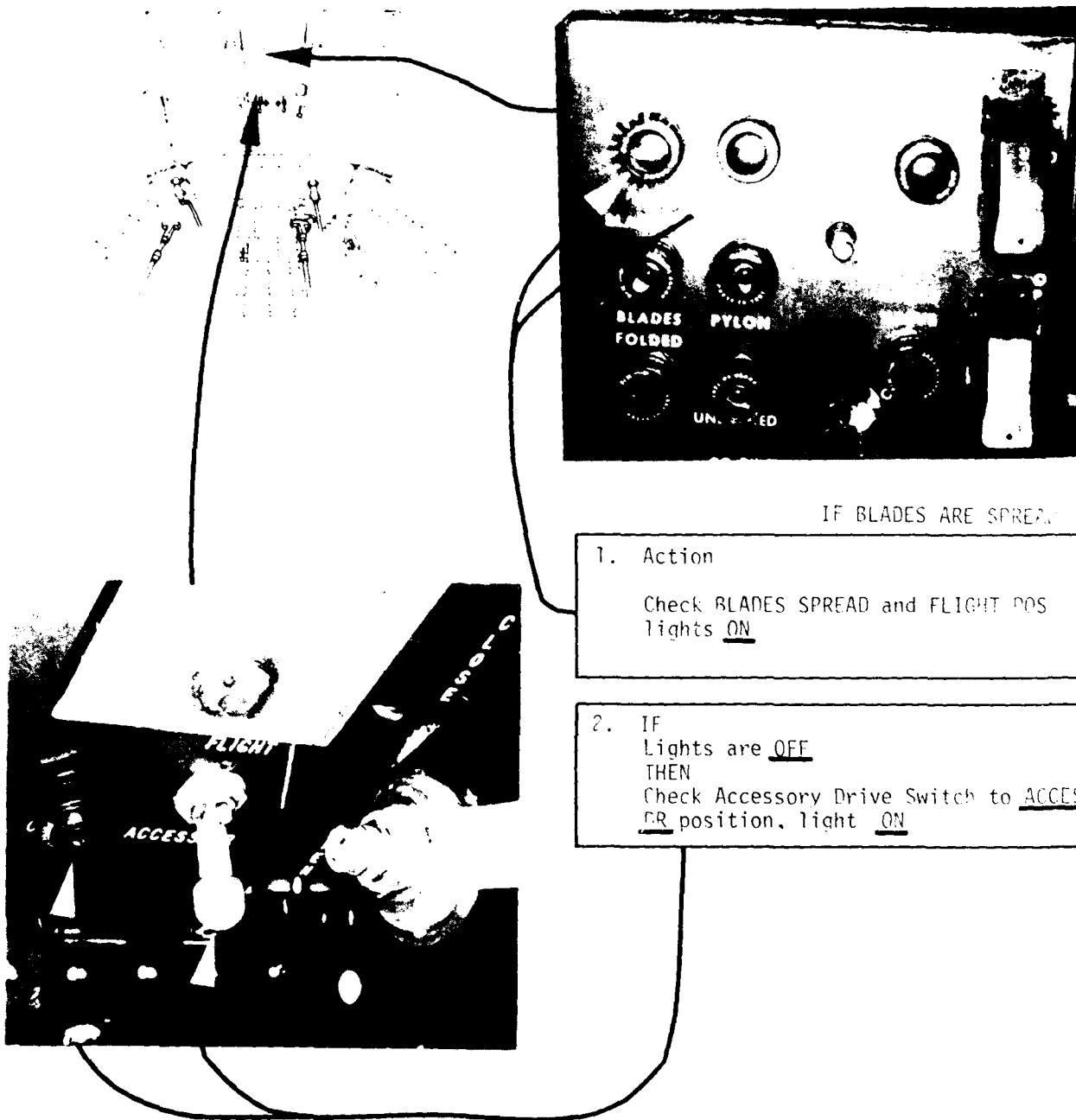
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

EXERCISE

- FILL IN THE BLANKS ● WRITE ON SCRATCH PAPER – NOT THE BOOK
● REFER BACK TO CHECK YOUR ANSWERS

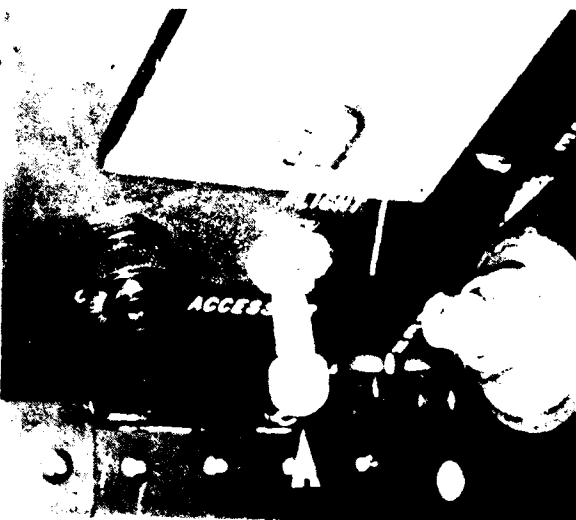


GO TO PAPER MOCK-UP ● STEP THROUGH ITEM
● TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

Purpose:

IF BLADES ARE SPREAD
To ensure that the Blade Panel, Hoist and Hooper Trim Switches are set for start.



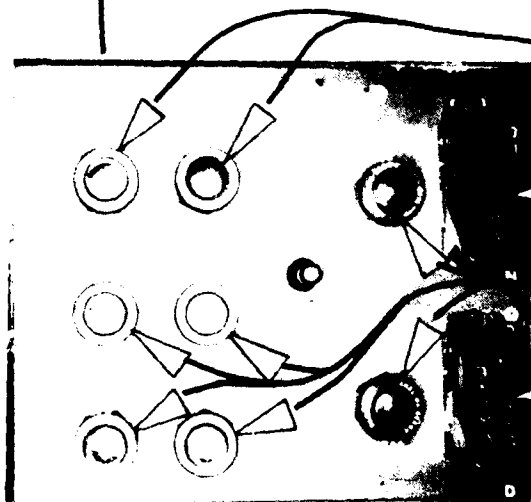
IF BLADES ARE SPREAD

3. IF
Accessory Drive switch in ACCESS PR
position and lights are OFF
THEN
Check BLADE FOLD CB on Center C.B.
panel IN. Reset if OUT.

4. IF
Lights are still out
PRESS TO TEST lights
THEN
If OK, call maintenance

5. Action
Press to Test No. 1 BLADE POS. CONT
LOCK PINS ADV, BLADES FOLDED, PYLON
UNLOCKED, FOLD PWR ON and SAFETY
VALVE ON lights

6. Action
Check SAFETY VALVE and MASTER switches
OFF (covers down) BLADES FOLD switch
to OFF (center)

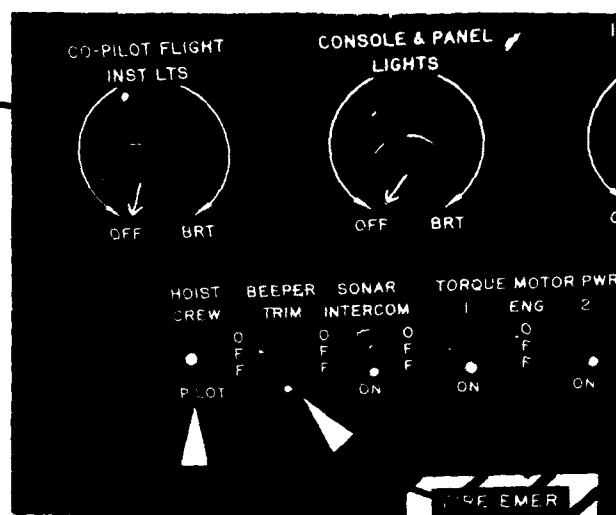
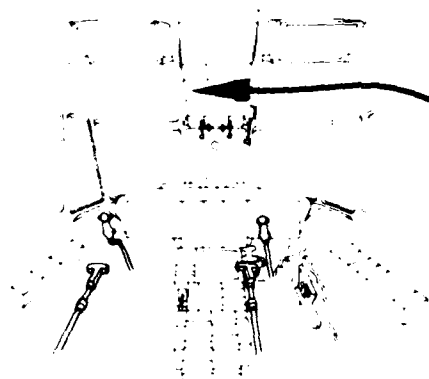


GO TO PAPER MOCK-UP

- STEP THROUGH ITEM
- TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

Purpose: IF BLADES ARE SPREAD
To ensure that the Blade Panel, Hoist and Beener Trim Switches are set for start.



IF BLADES ARE SPREAD

7. Action

HOIST switch to CREW (up)

8. Action

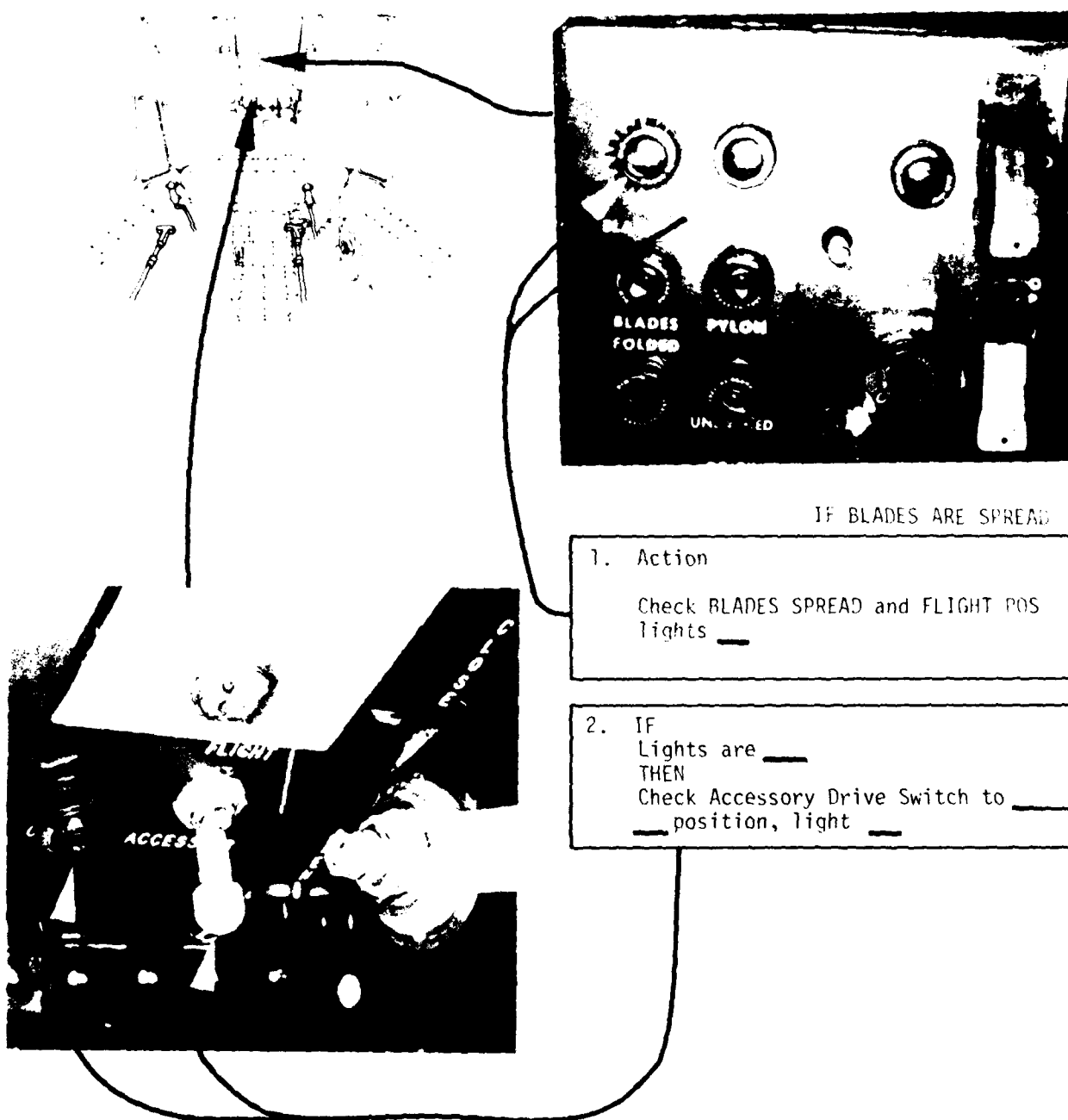
BEEPER TRIM switch to ON (down)

9. Voice Response

"CHECK"

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK



IF BLADES ARE SPREAD

1. Action

Check BLADES SPREAD and FLIGHT POS
lights —

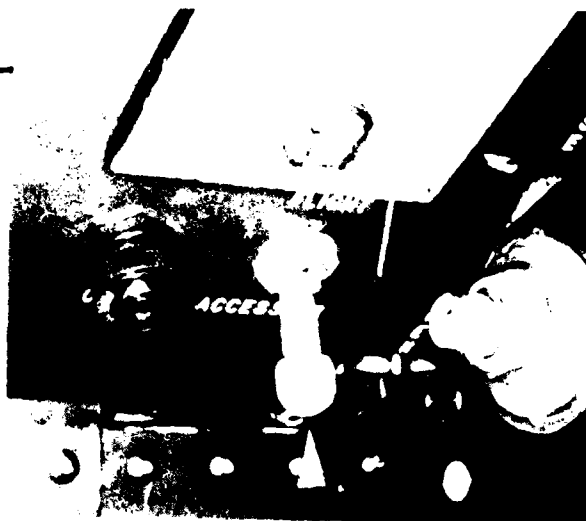
2. IF
Lights are —
THEN

Check Accessory Drive Switch to —
— position, light —

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK



IF BLADES ARE SPREAD

3. IF
Accessory Drive switch in ACCESS DR
position and lights are ____
THEN
Check ____ CB on Center C.B.
panel ____ Reset if OUT.

4. IF
Lights are still out
PRESS TO TEST lights
THEN
If OK, call ____

5. Action
____ No. 1 BLADE POS. CONT
LOCK PINS ADV. BLADES FOLDED, PYLON
UNLOCKED, FOLD PWR ON and SAFETY
VALVE ON lights

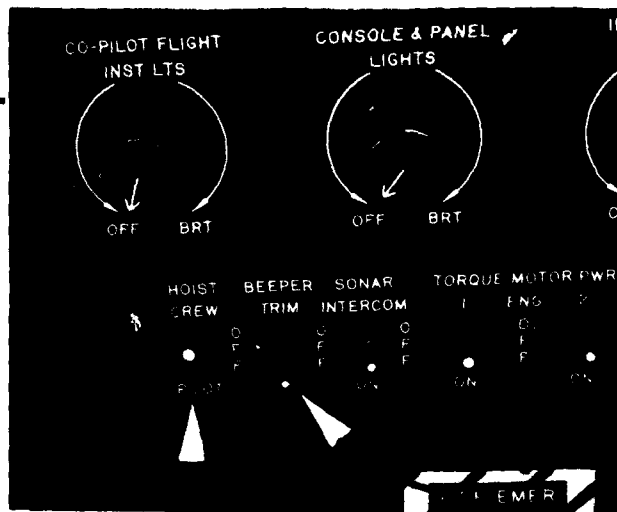
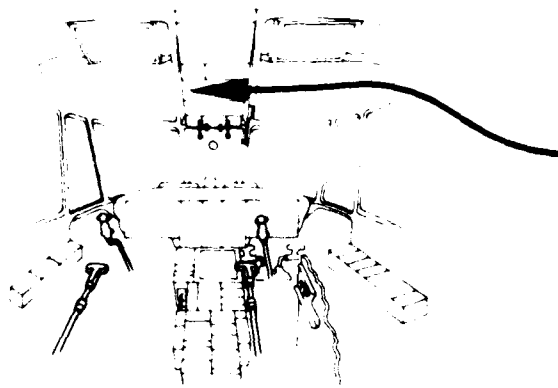
6. Action
Check SAFETY VALVE and MASTER switches
to ____ BLADES FOLD switch
to ____

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 10. Blade Panel, Hoist, Trim CHECK

Purpose:



IF BLADES ARE SPREAD

7. Action

HOIST switch to ____ ()

8. Action

BEEPER TRIM switch to ____ ()

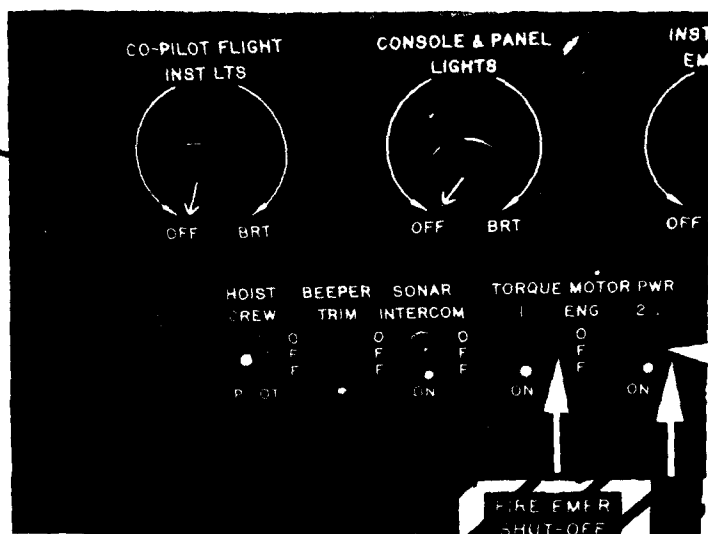
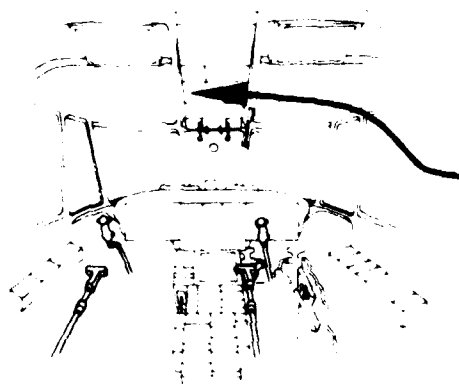
9. Voice Response

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 11. Torquemotor Switches OFF

Purpose: To disconnect the Power Management System (PMS) for starting
(Electrical overspeed protection is still operating)



1. Action

TORQUE MOTOR PWR ENG 1 and 2 Switches
OFF (up)

2. Voice Response

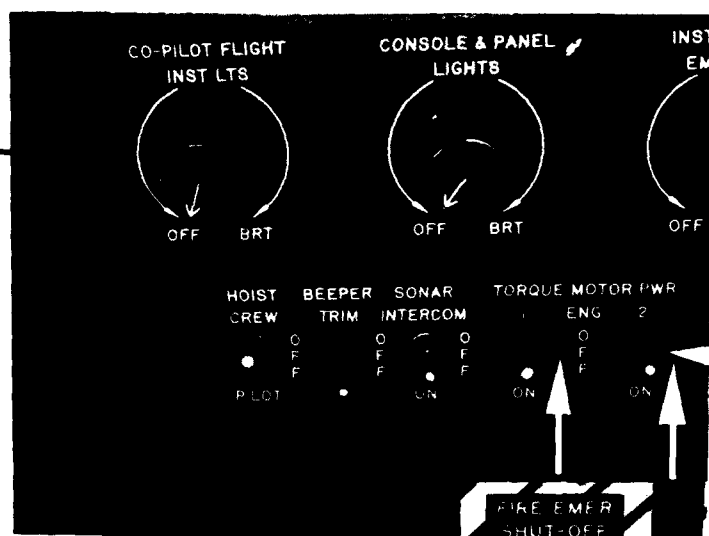
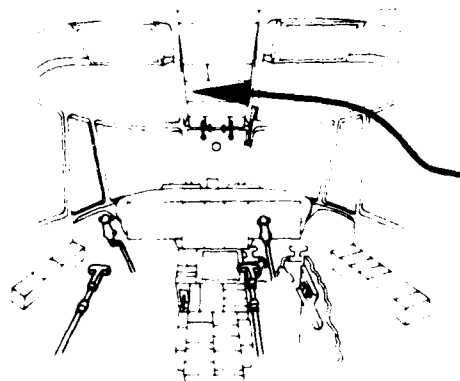
"OFF"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 11. Torquemotor Switches OFF

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

TORQUE MOTOR PWR ENG 1 and 2 Switches
 ()

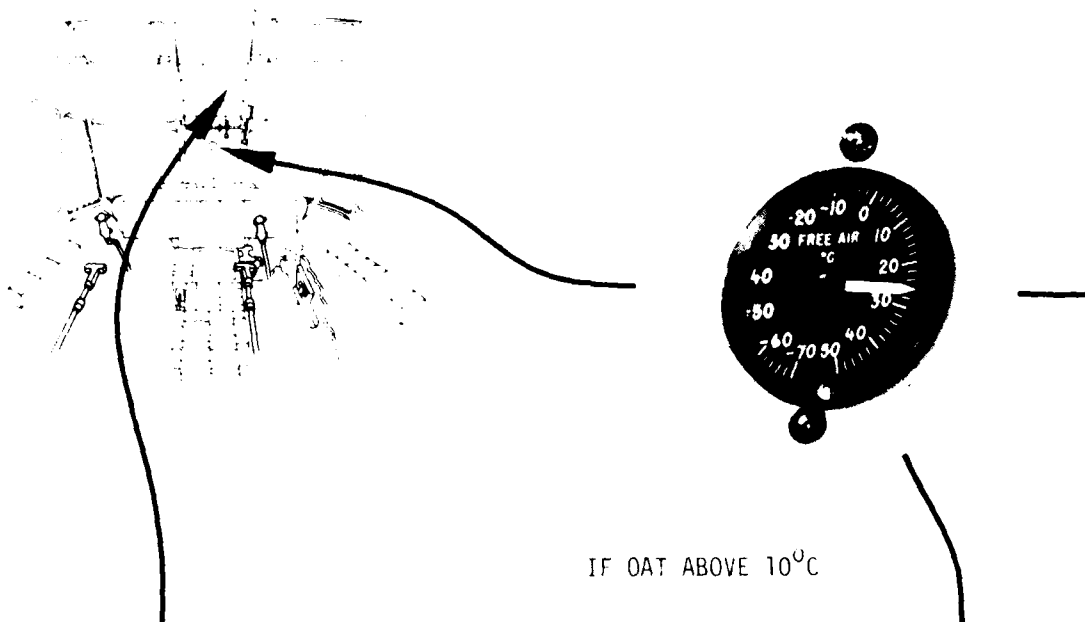
2. Voice Response

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 12. Anti-Ice CHECK AS REQUIRED

Purpose: To set No. 1 Engine Anti-Ice for starting depending on prevailing weather conditions.



IF OAT ABOVE 10°C

1. Action

Check Free Air Temperature Gage for current outside air temperature

- 2. IF**
Free air temperature is 10° C or higher
THEN
Continue with step 3

- 3. Action**
Verify No. 1 Engine ANTI-ICE switch is in OFF (up)

4. Voice Response

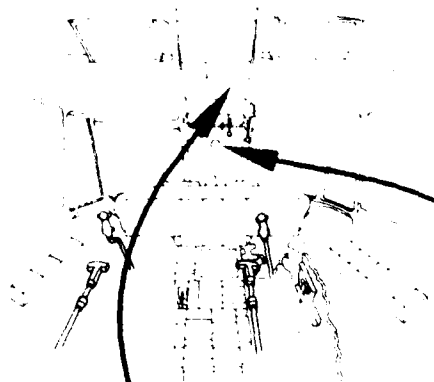
"CHECK AS REQUIRED"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 12. Anti-Ice CHECK AS REQUIRED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER – NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



IF OAT ABOVE 10°C



1. Action

Check Free Air Temperature Gage for current outside air temperature

2. IF
Free air temperature is ____ C or higher
THEN
Continue with step 3

3. Action
Verify No. 1 Engine ANTI-ICE switch is in ____ ()

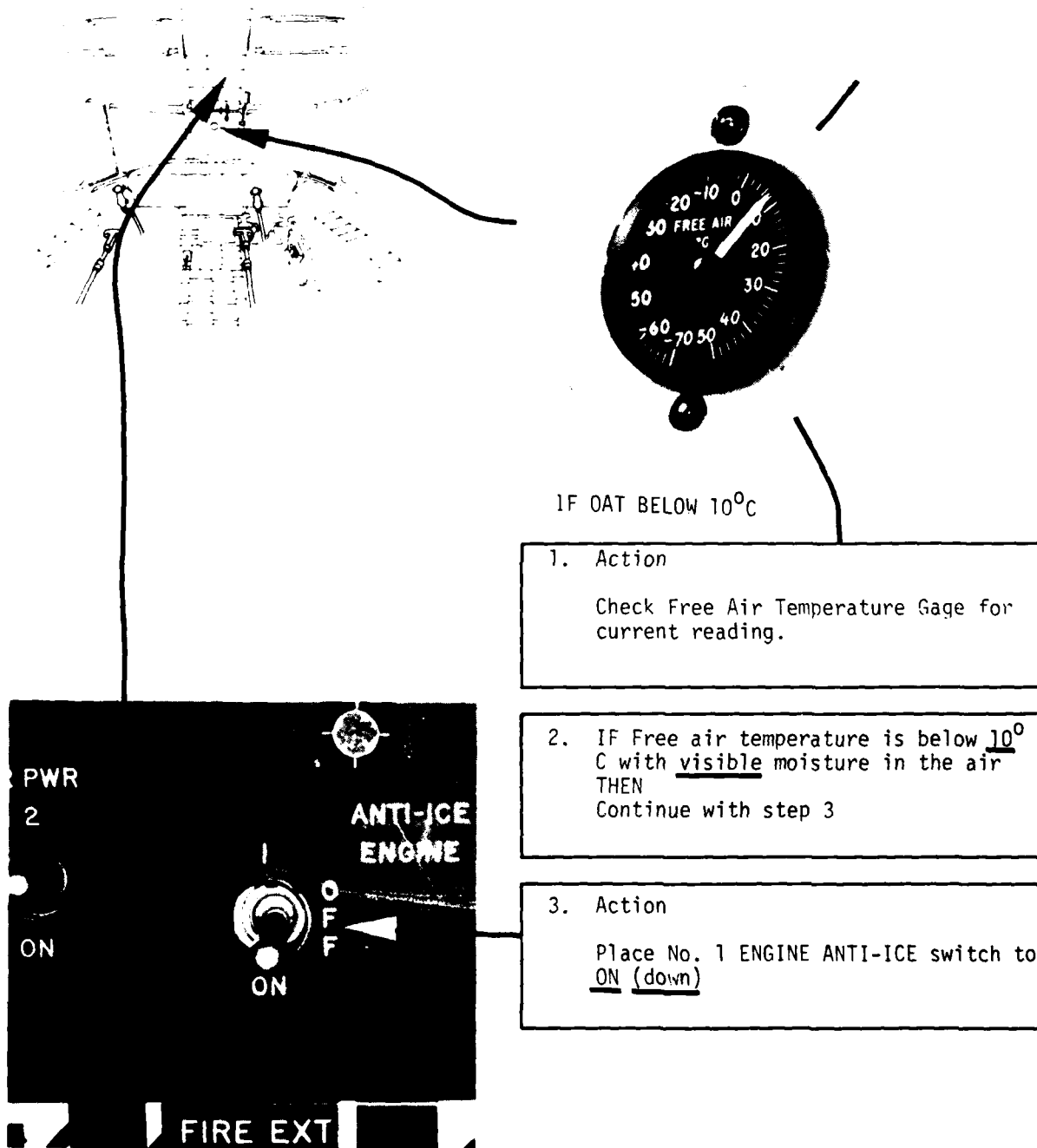
4. Voice Response

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 12. Anti-Ice CHECK AS REQUIRED

Purpose: To set NO. 1 Engine Anti-Ice for starting depending on prevailing weather conditions.



The diagram illustrates the engine anti-ice system. It includes a line drawing of an engine with an arrow pointing to the anti-ice switch. A circular gauge labeled 'FREE AIR °C' shows a temperature scale from -70 to 20. Below the gauge, the text 'IF OAT BELOW 10°C' is displayed. To the right of the gauge, three numbered steps are listed in boxes. At the bottom left, a control panel features a switch labeled 'ANTI-ICE ENGINE' with 'ON' and 'OFF' positions, and a 'FIRE EXT' button.

1. Action

Check Free Air Temperature Gage for current reading.

2. IF Free air temperature is below 10° C with visible moisture in the air THEN Continue with step 3

3. Action

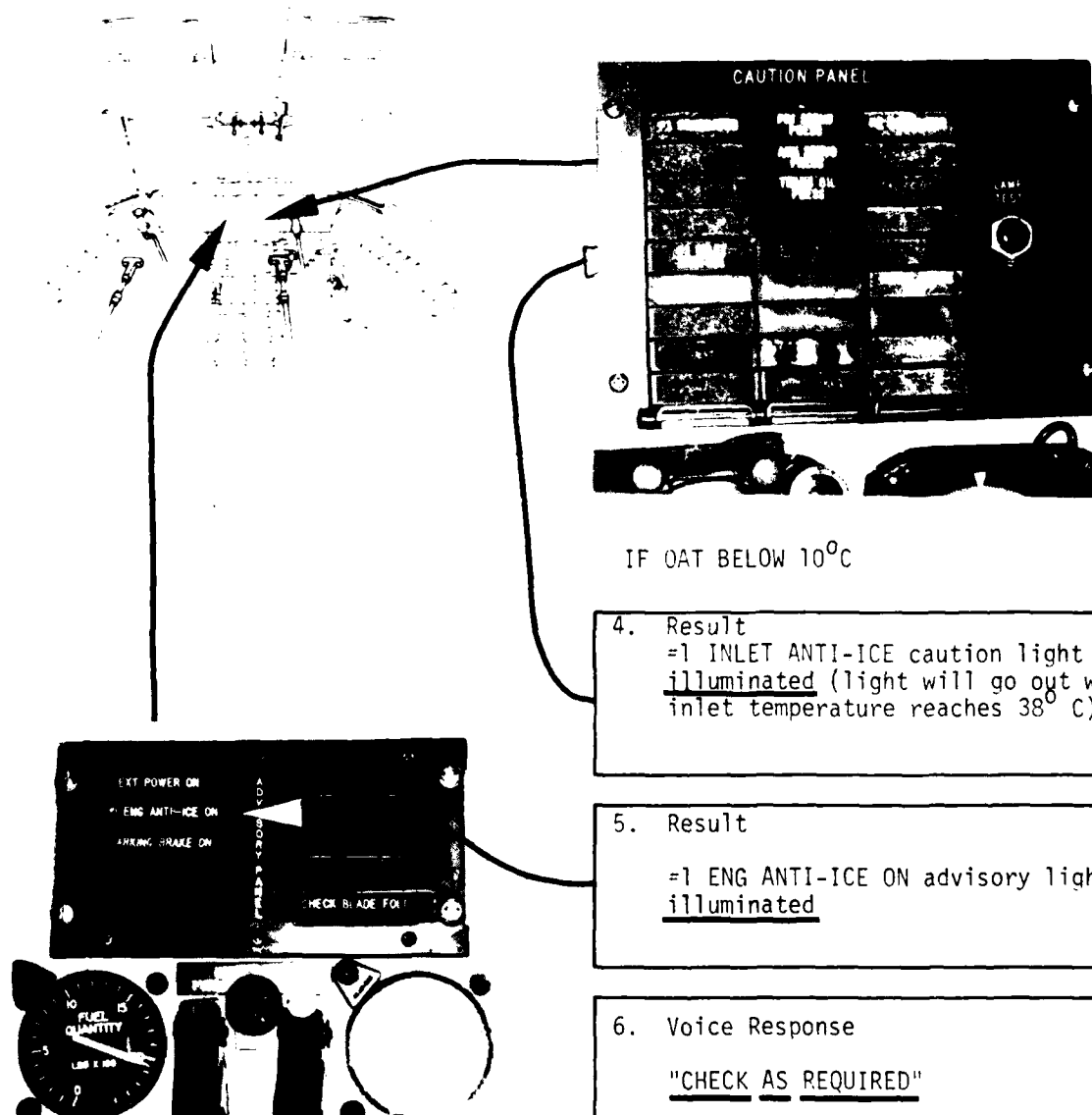
Place No. 1 ENGINE ANTI-ICE switch to ON (down)

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 12. Anti-Ice

CHECK AS REQUIRED

Purpose: To set No. 1 Engine ANTI-ICE for starting depending on the prevailing weather conditions



IF OAT BELOW 10°C

4. Result
=1 INLET ANTI-ICE caution light is illuminated (light will go out when inlet temperature reaches 38°C)

5. Result
=1 ENG ANTI-ICE ON advisory light is illuminated

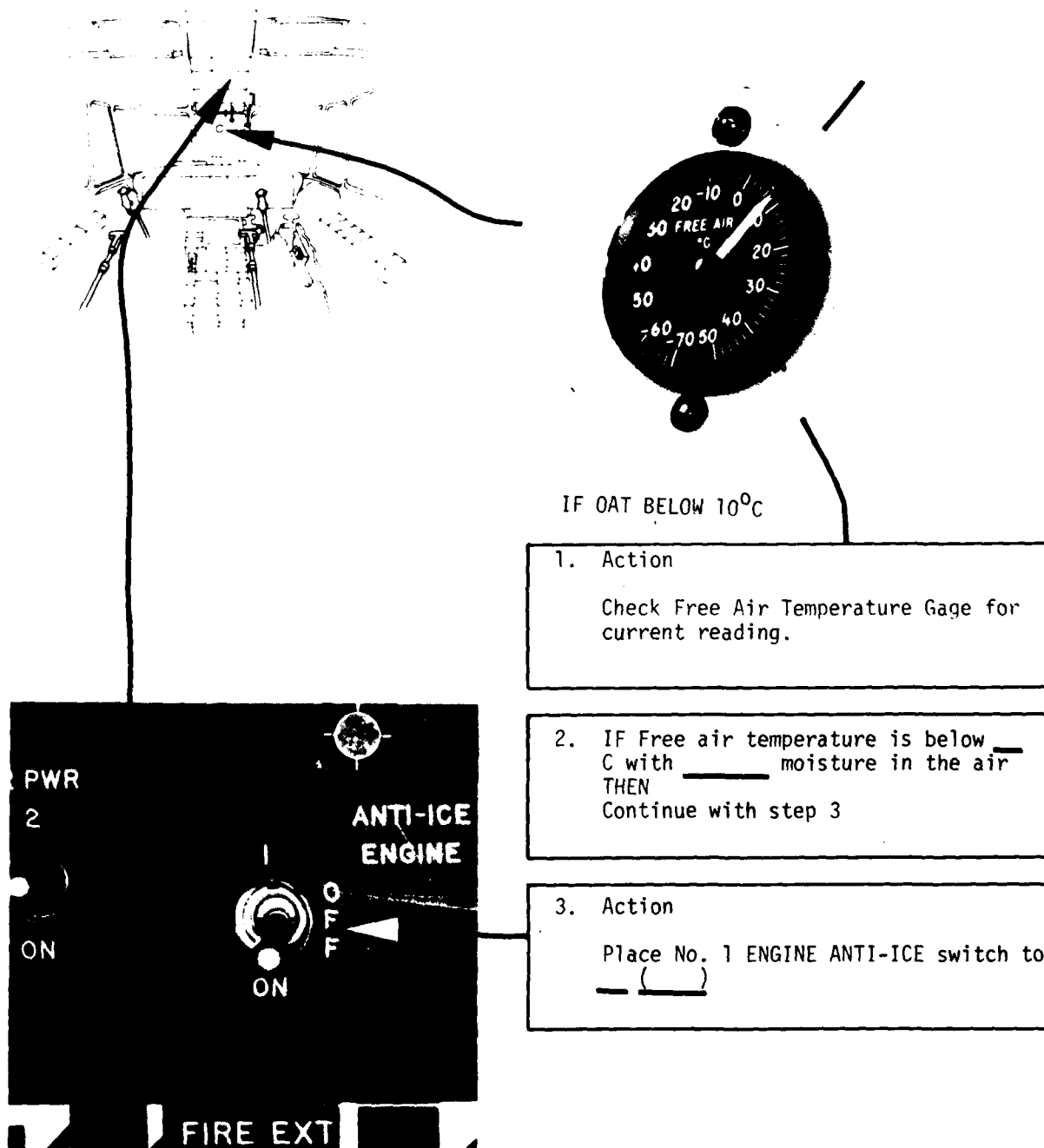
6. Voice Response
"CHECK AS REQUIRED"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 12. Anti-Ice CHECK AS REQUIRED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER – NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



IF OAT BELOW 10°C

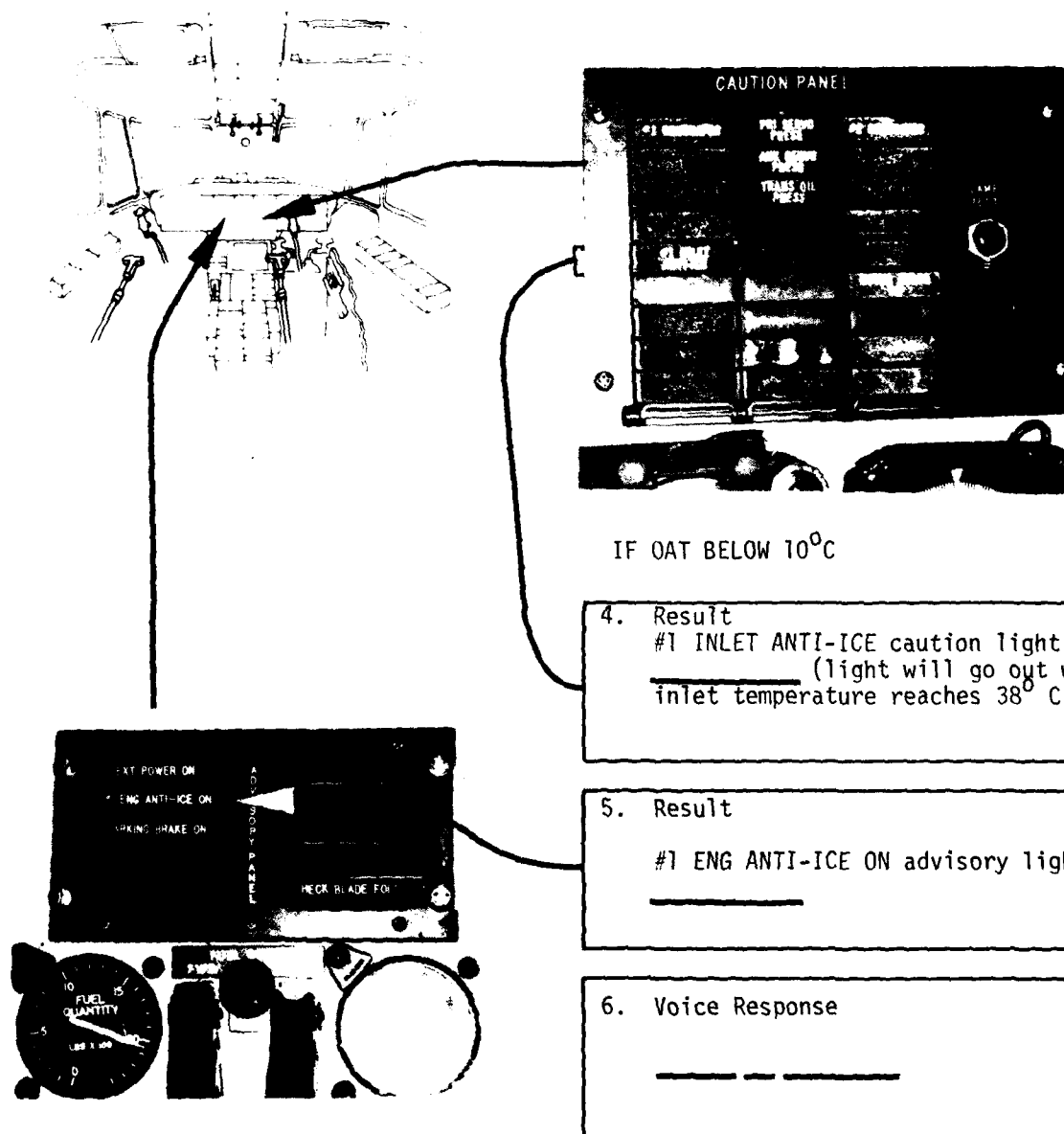
1. Action
Check Free Air Temperature Gage for current reading.
2. IF Free air temperature is below _____ C with _____ moisture in the air
THEN
Continue with step 3
3. Action
Place No. 1 ENGINE ANTI-ICE switch to _____

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 12. Anti-Ice

CHECK AS REQUIRED



IF OAT BELOW 10°C

4. Result
#1 INLET ANTI-ICE caution light is _____ (light will go out when inlet temperature reaches 38°C)

5. Result
#1 ENG ANTI-ICE ON advisory light is _____

6. Voice Response

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM NO. 7 through ITEM NO. 12

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST

State in your own words the Purpose

Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

State the VOICE RESPONSE at completion of the steps

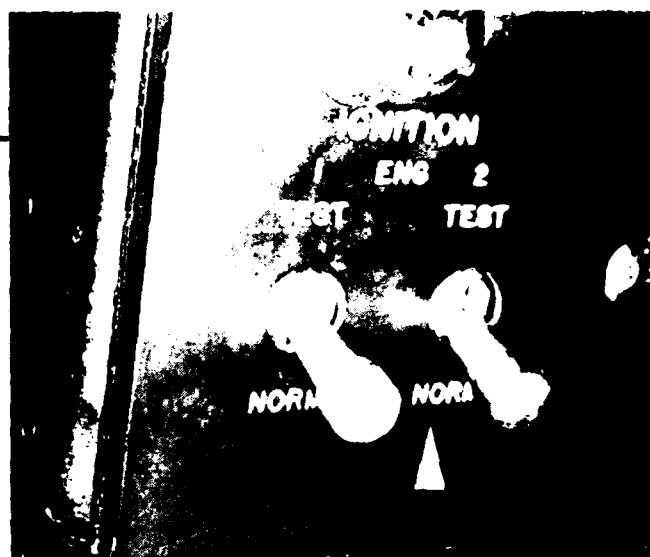
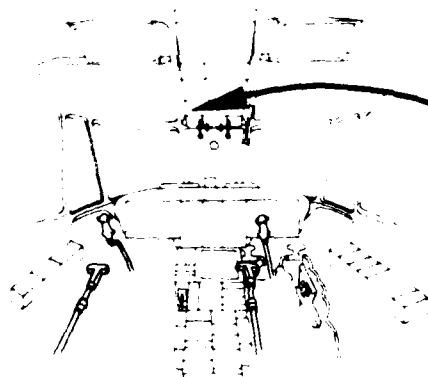
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NORMAL START CHECKLIST ITEM NO. 13. Ignition Switches NORMAL

Purpose:

To set ignition switches to provide ignition during start.



1. Action

Place both ENG 1 and ENG 2 IGNITION switches to NORMAL (push forward)

2. Voice Response

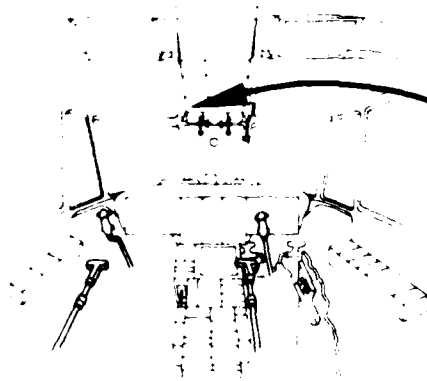
"NORMAL"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 13. Ignition Switches NORMAL

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Place both ENG 1 and ENG 2 IGNITION switches to _____ (push _____)

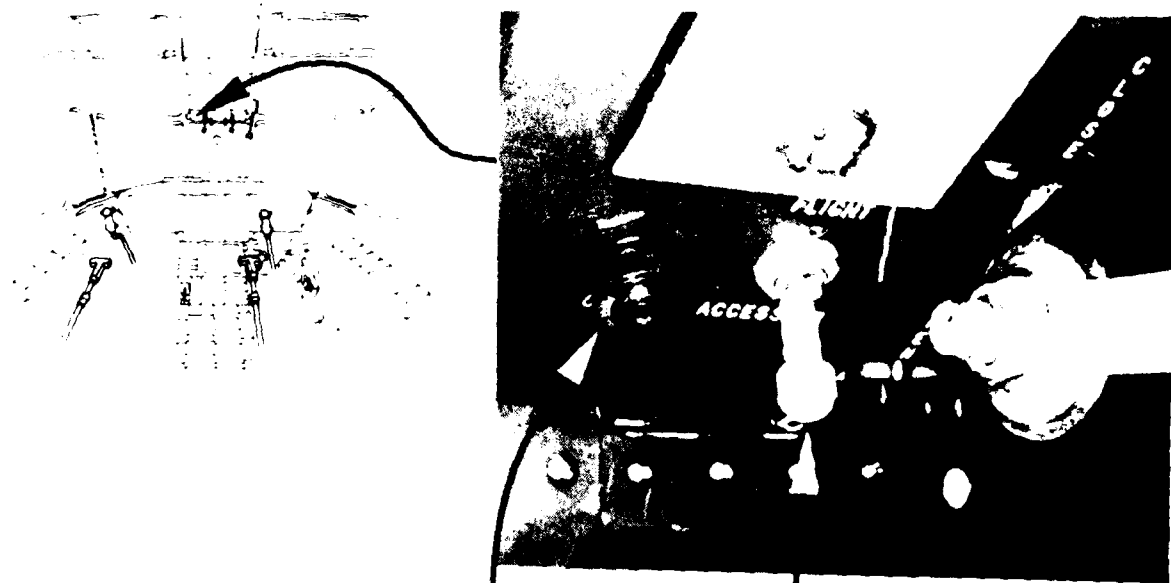
2. Voice Response

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 14. Accessory Drive Switch FORWARD, LIGHT ON

Purpose: The accessory drive switch allows the No. 1 engine to drive the accessory drive section of the main gearbox.



1. Action

Verify Accessory Drive switch in ACCESS DR position (pull out and forward)

2. Result

Accessory Drive Warning Light ON

3. Voice Response

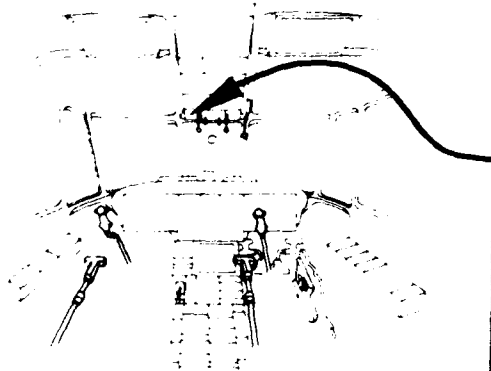
"FORWARD, LIGHT ON"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 14. Accessory Drive Switch FORWARD, LIGHT ON

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER – NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Verify Accessory Drive switch in
_____ position (pull _____ and
_____)

2. Result

Accessory Drive Warning Light _____

3. Voice Response

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF

Purpose: To check the Manual Throttles and Speed Selectors for freedom of movement and for proper operation.

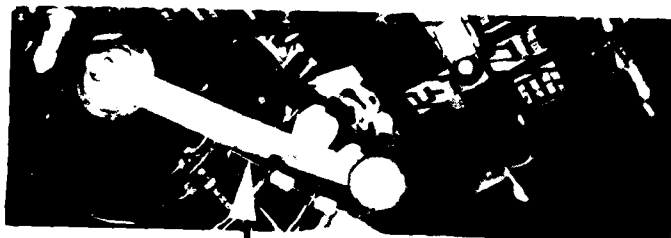


1. Action
Move No. 1 Engine Manual Throttle (EMERGENCY FUEL CONTROL) full forward to OPEN position. Check for freedom of movement

2. Result
No. 1 Engine Manual Throttle moves freely without binding to the OPEN position

3. Action
Move No. 1 Engine Manual Throttle full aft to the CLOSED position.

4. Result
No. 1 Engine Manual Throttle moves freely without binding to the CLOSED position

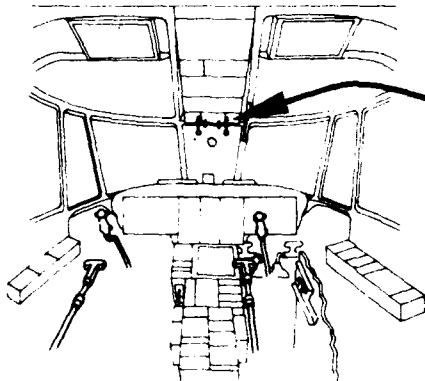


GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF

Purpose:

To check the Manual Throttles and Speed Selectors for freedom of movement and for proper operation.



5. Action

Move No. 2 Engine Manual Throttle (EMERGENCY FUEL CONTROL) full forward to the OPEN position. Check for freedom of movement

6. Result

No. 2 Engine Manual Throttle moves freely without binding to the OPEN position

7. Action

Move the No. 2 Engine Manual Throttle full aft to the CLOSED position

8. Result

No. 2 Engine Manual Throttle moves freely without binding to the CLOSED position



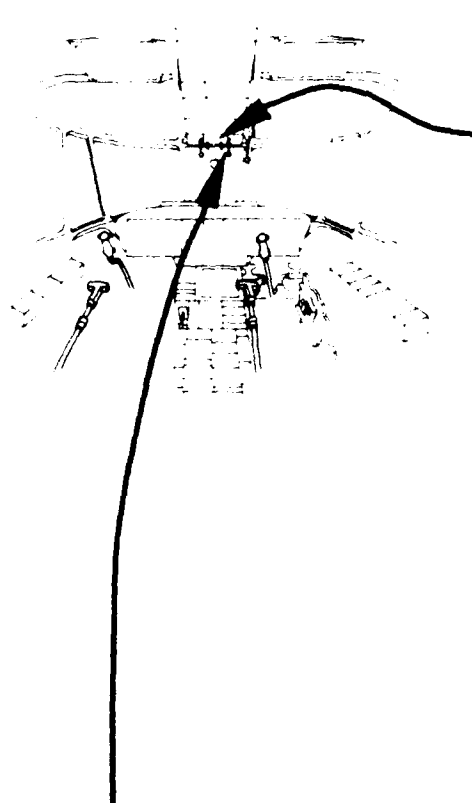
GO TO PAPER MOCK-UP

• STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

**NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF**

Purpose:

To check the Manual Throttles and Speed Selectors for freedom of movement and for proper operation.



9. Action
Move No. 1 Engine Speed Selector to the GROUND IDLE DETENT. Pull down on SPEED SELECTOR to disengage detent and move full forward to 100% SPEED position

10. Result

The No. 1 Speed Selector moves freely without binding



11. Action
Move No. 2 Engine Speed Selector to the GROUND IDLE DETENT. Pull down on SPEED SELECTOR to disengage detent and move full forward to 100% SPEED position

12. Result

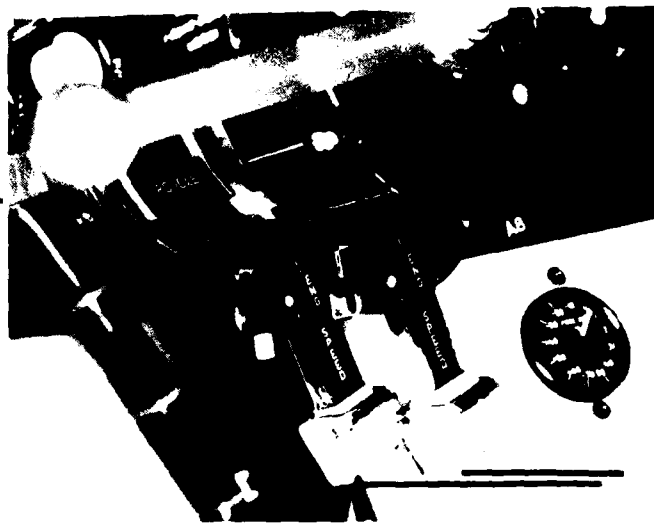
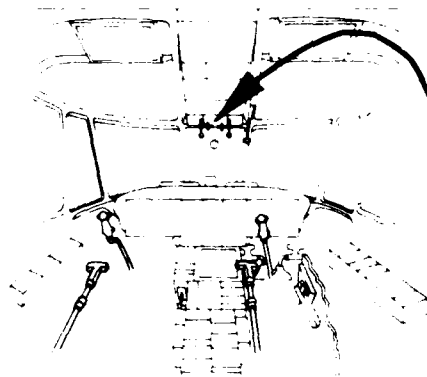
The No. 2 Engine Speed Selector moves freely without binding

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

**NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF**

Purpose:

To check the Manual Throttles and Speed Selectors for freedom of movement and for proper operation.

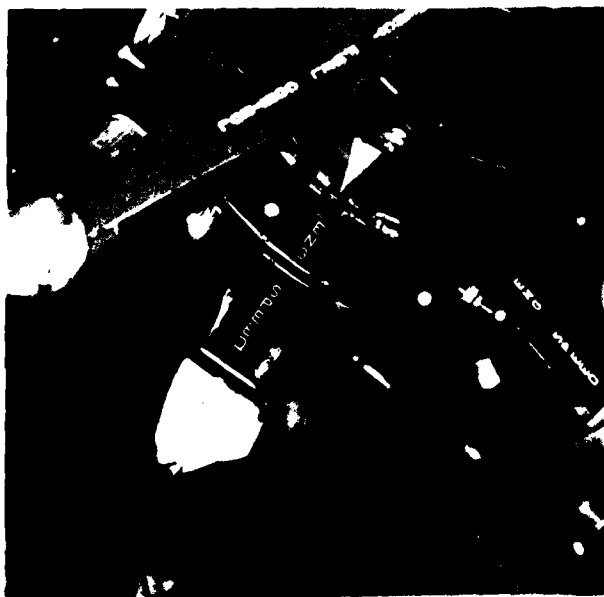


13. Result
The No. 1 and No. 2 Engine Speed Selectors should be approximately matched (within 1 inch) at the full forward, 100% SPEED position

14. IF
The Speed Selectors are not matched
THEN
Note the discrepancy for a maintenance write-up. Continue the checklist

15. Action
Retard the No. 1 Speed Selector aft to the Ground Idle position, GND IDLE. The Speed Selector should freely latch in that position

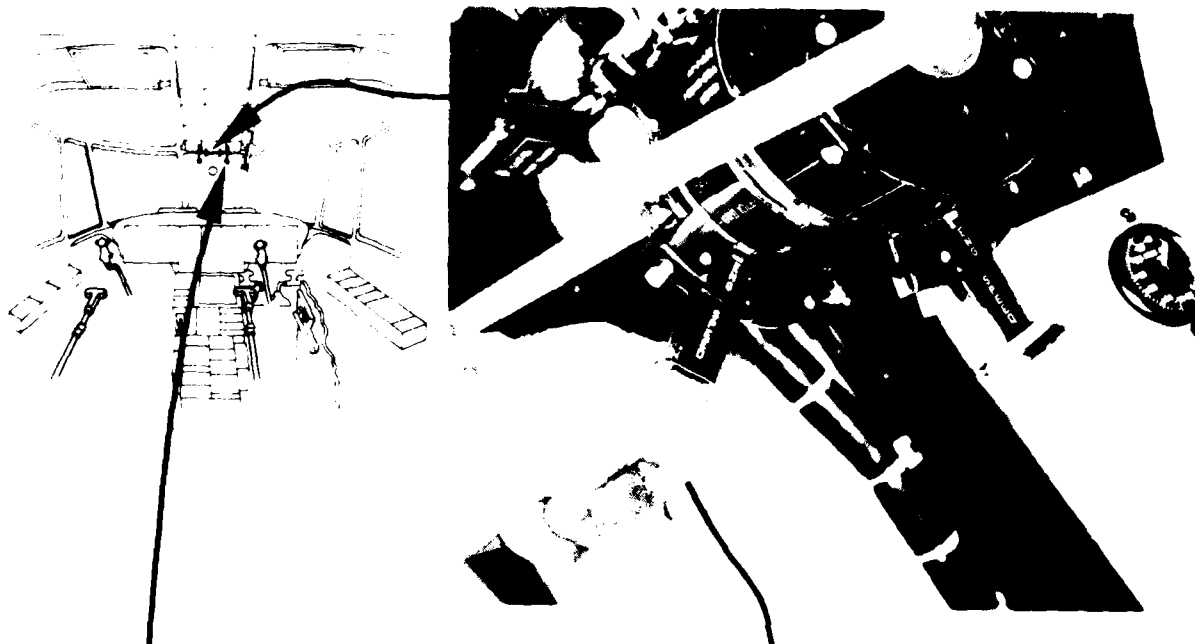
16. Note
A high load region which feels like a bind will be noticed just prior to reaching GND IDLE



GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors ... FREE AND OFF

Purpose: To check the Manual Throttles and Speed Selectors for freedom of movement and for proper operation.



17. Action

Return the No. 1 Speed Selector to SHUTOFF (pull down and aft)

18. Action

Retard the No. 2 Engine Speed Selector aft to the ground idle position, GND IDLE. The speed selector should freely latch in that position

19. Note

A high load region which feels like a bind will be noticed just prior to reaching GND IDLE

20. Action

Return the No. 2 Speed Selector to SHUT OFF (pull down and aft)



GO TO PAPER MOCK-UP : STEP THROUGH ITEM TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF

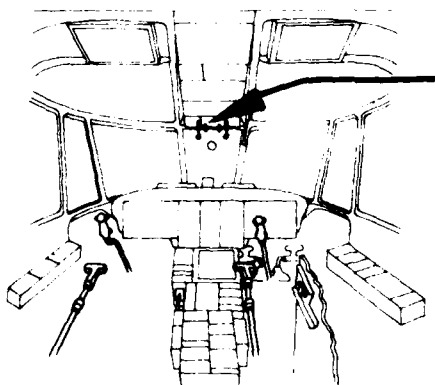
Purpose: To check the Manual Throttles and Speed Selectors for freedom of movement and for proper operation.



21. Voice Response
"FREE AND OFF"

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF

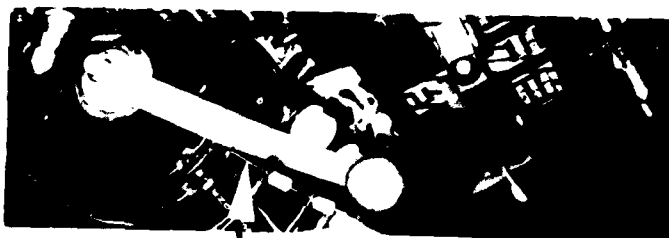


1. Action
Move No. 1 Engine Manual Throttle
(EMERGENCY FUEL CONTROL) full _____
to _____ position. Check for _____
of movement

2. Result
No. 1 Engine Manual Throttle moves
_____ without _____ to the _____
position

3. Action
Move No. 1 Engine Manual Throttle
full _____ to the _____ position.

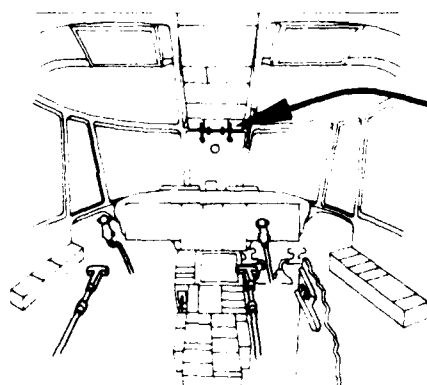
4. Result
No. 1 Engine Manual Throttle moves
_____ without _____ to the _____
position



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF



5. Action

Move No. 2 Engine Manual Throttle (EMERGENCY FUEL CONTROL) full _____ to the _____ position. Check for freedom of movement

6. Result

No. 2 Engine Manual Throttle moves _____ without _____ to the _____ position



7. Action

Move the No. 2 Engine Manual Throttle full _____ to the _____ position

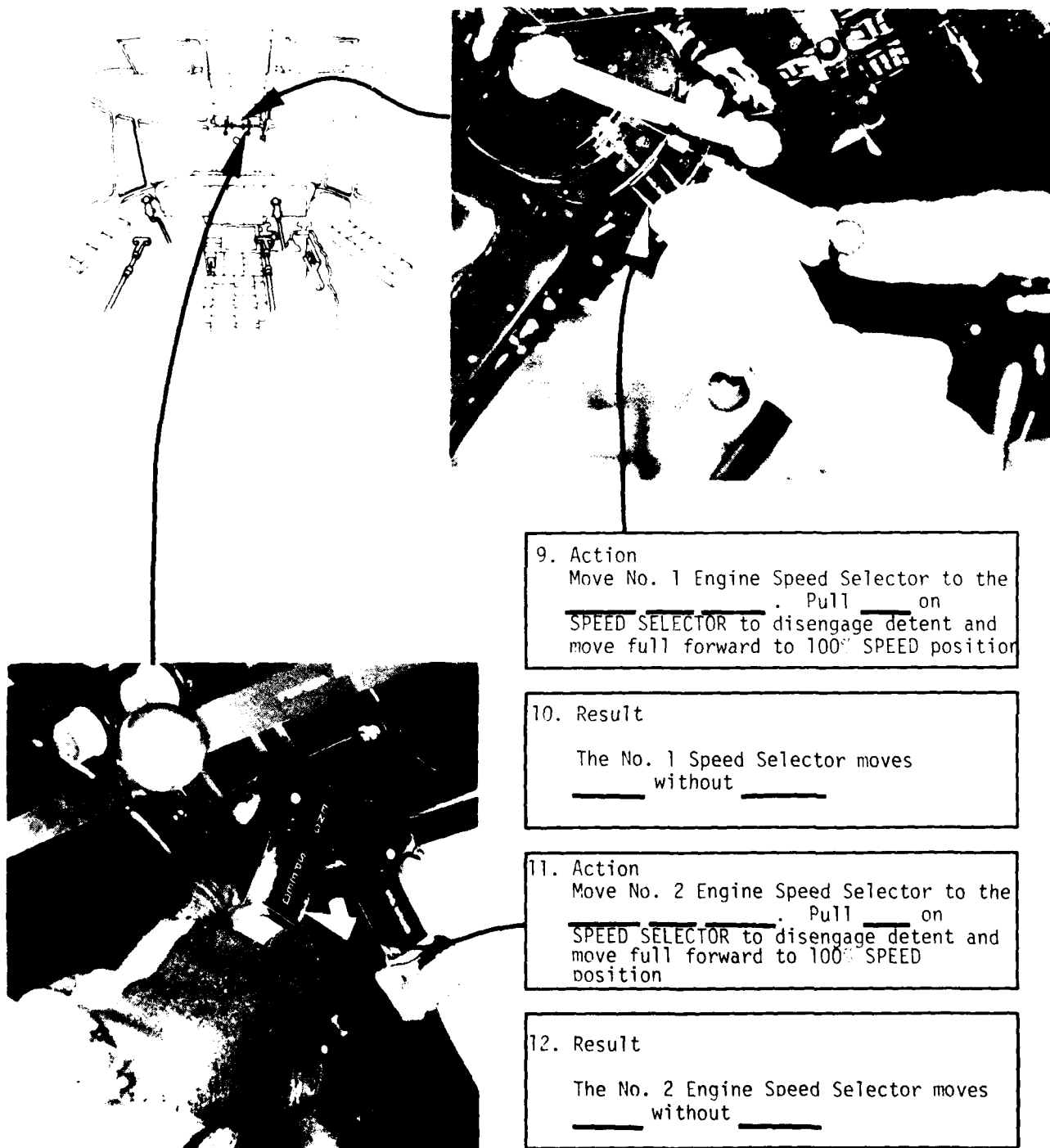
8. Result

No. 2 Engine Manual Throttle moves _____ without _____ to the _____ position

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

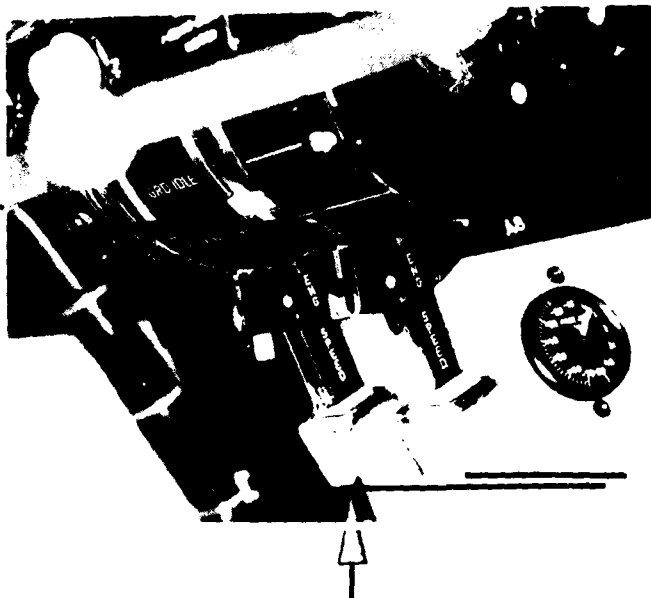
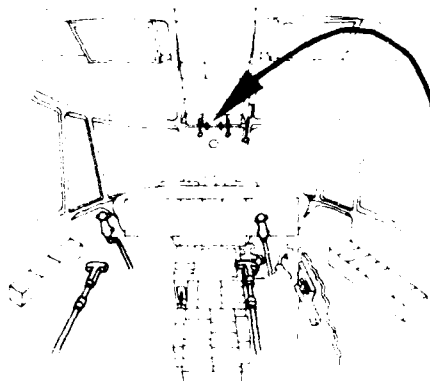
NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

**NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF**



13. Result
The No. 1 and No. 2 Engine Speed Selectors should be approximately matched (within _____) at the full forward, 100% SPEED position

14. IF
The Speed Selectors are not matched
THEN
Note the discrepancy for a maintenance write-up. _____ the checklist

15. Action
Retard the No. 1 Speed Selector aft to the _____ position, GND IDLE. The Speed Selector should freely _____ in that position

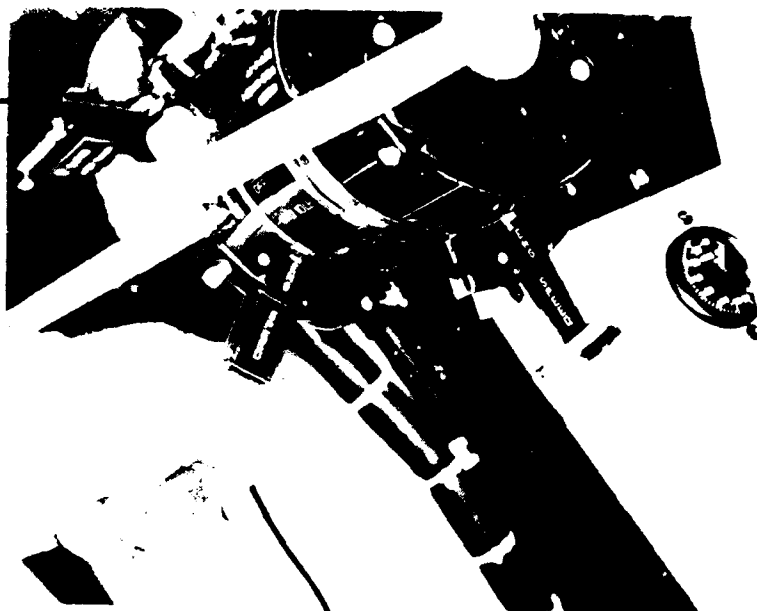
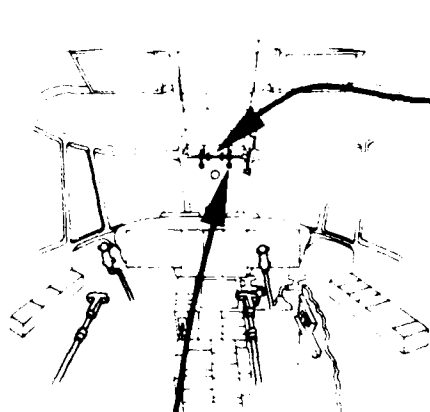
16. Note
A high load region which feels like a bind will be noticed just prior to reaching GND IDLE



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors ...
FREE AND OFF



17. Action
Return the No. 1 Speed Selector to _____ (pull _____ and _____)



18. Action
Retard the No. 2 Engine Speed Selector aft to the _____ position, GND IDLE. The speed selector should freely _____ in that position

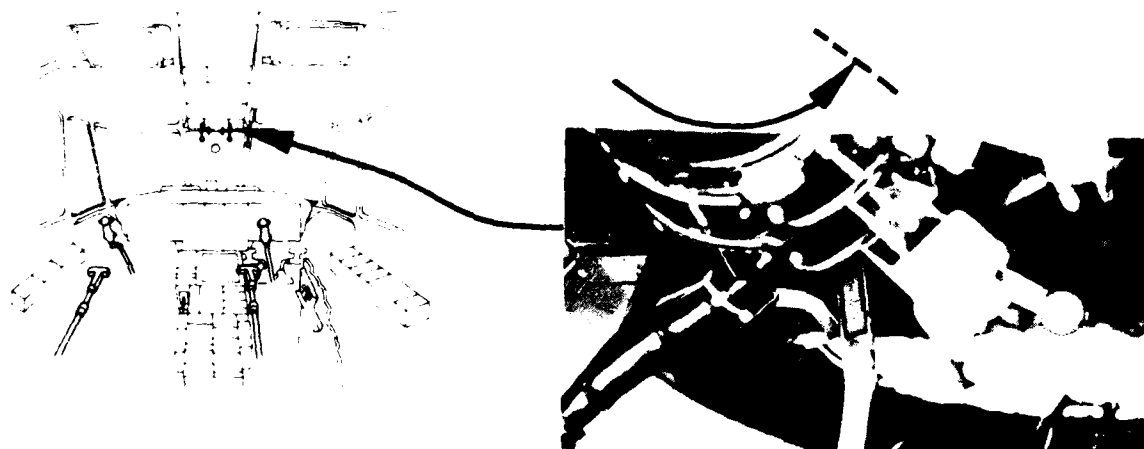
19. Note
A high load region which feels like a bind will be noticed just prior to reaching GND IDLE

20. Action
Return the No. 2 Speed Selector to _____ (pull _____ and _____)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 15. Manual Throttles, Speed Selectors
FREE AND OFF



21. Voice Response

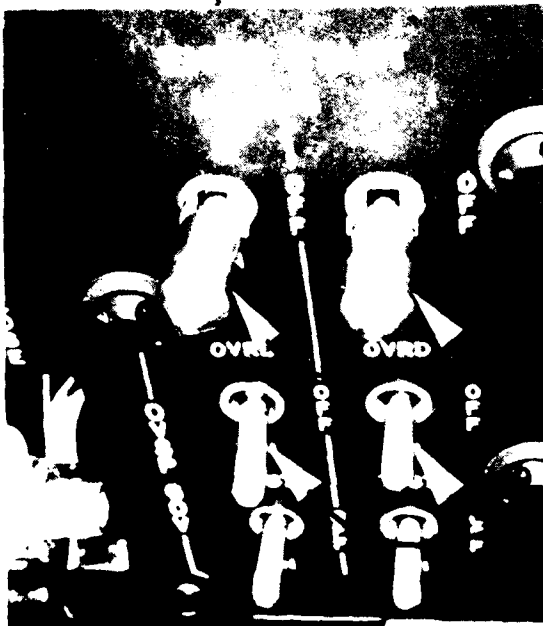
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 16. Emergency Start and Override Switches ... OFF

Purpose:

Placing the EMER START switches to OFF ensures that the interlocks are not by-passed; OVRD switches OFF ensures electrical overspeed protection.



1. Action

Place No. 1 and No. 2 EMER START switches to OFF (pull out and up)

2. Action

Place No. 1 and No. 2 OVRD switches to OFF (up)

3. Voice Response

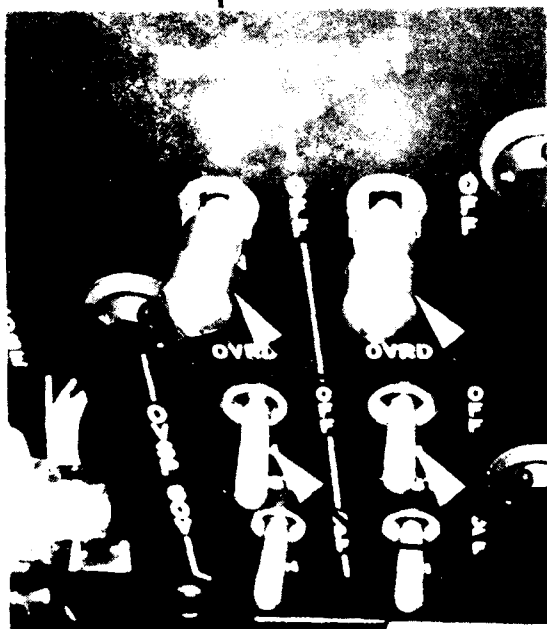
"OFF"

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 16. Emergency Start and Override Switches ... OFF

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REF R BACK TO CHECK YOUR ANSWERS



1. Action

Place No. 1 and No. 2 EMER START switches to ____ (pull ____ and ____)

2. Action

Place No. 1 and No. 2 OVRD switches to ____ (____)

3. Voice Response

—

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM NO. 13 Through ITEM NO. 16

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST

State in your own words the Purpose

Go through each step in the ITEM mentally

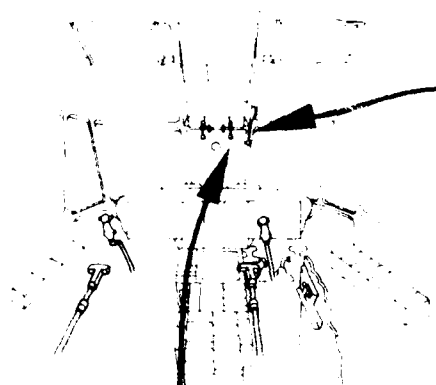
Touch the location on the PAPER MOCKUP as you go through the steps

State the VOICE RESPONSE at completion of the steps

PAGES 145 THROUGH 154 INTENTIONALLY LEFT BLANK.

NORMAL START CHECKLIST ITEM NO. 17. Rotor Brake CHECKED

Purpose: To ensure that the Manual Rotor Brake is ON and if blades are folded that there is sufficient pressure to close the safety interlock prior to starting No. 1 engine.



1. Action

Ensure Rotor Brake Lever is forward and latched in the ON position

2. Action

Read Rotor Brake Pressure Gage for a minimum of 320 psi

3. IF

Gage reads less than 320 psi
THEN

Cycle Rotor Brake Lever to increase gage to a minimum of 320 psi

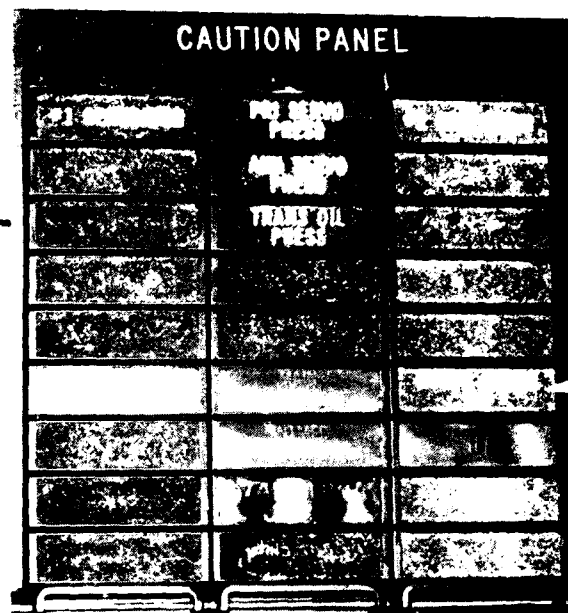
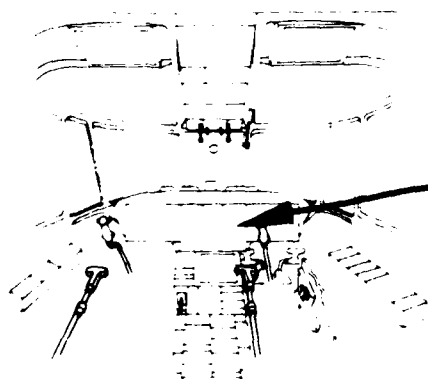
4. CAUTION

If blades are folded, recycling Rotor Brake requires personnel to hold blades to prevent head shifting.

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 17. Rotor Brake CHECKED

Purpose: To ensure that the Manual Rotor Brake is ON and if blades are folded that there is sufficient pressure to close the safety interlock prior to starting No. 1 engine.



5. Action

Verify ROTOR BRAKE ON caution light is illuminated

6. Voice Response

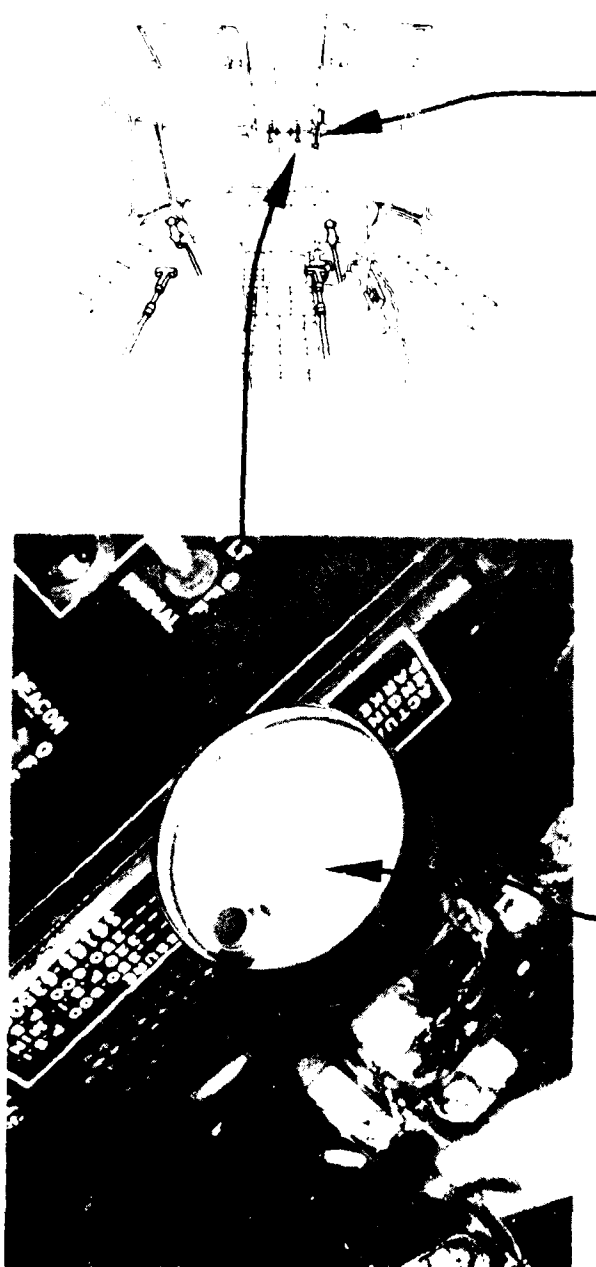
"CHECKED"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 17. Rotor Brake CHECKED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Ensure Rotor Brake Lever is forward and _____ in the _____ position

2. Action

Read Rotor Brake Pressure Gage for a minimum of _____

3. IF

Gage reads less than _____ psi
THEN

_____ Rotor Brake Lever to increase
gage to a minimum of _____ psi

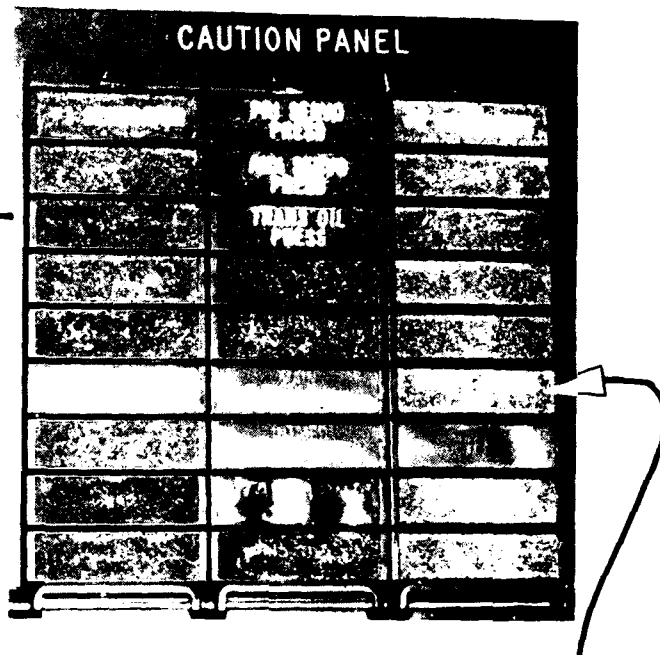
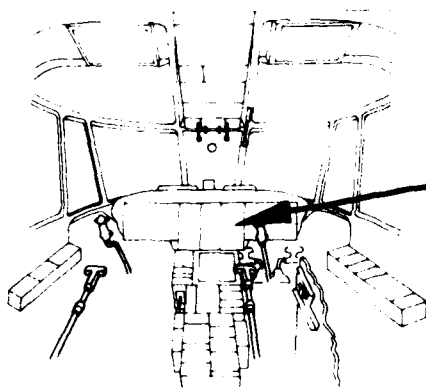
4. CAUTION

If blades are folded, recycling
Rotor Brake requires personnel to
hold blades to prevent _____

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 17. Rotor Brake CHECKED



5. Action

Verify ROTOR BRAKE ON caution light
is _____

6. Voice Response

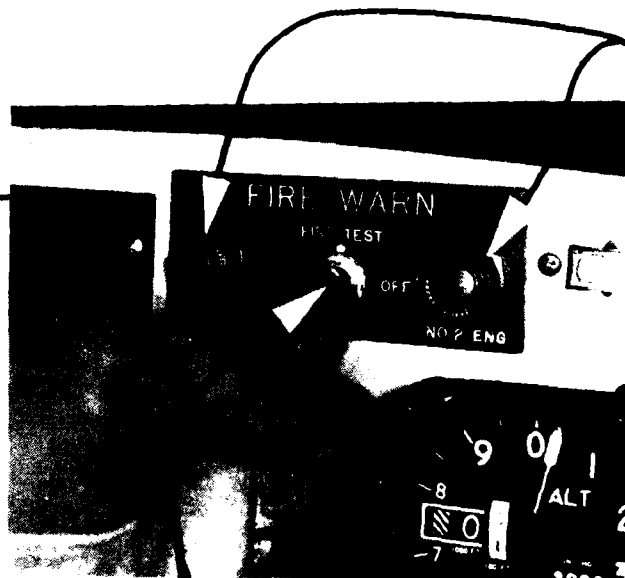
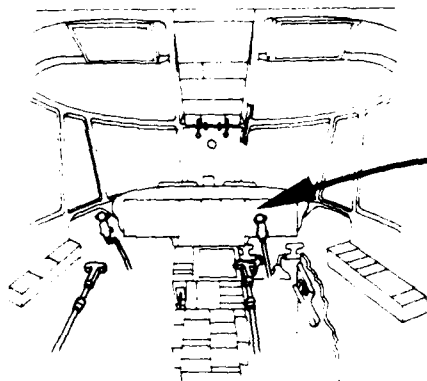
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 18. Fire Warning, Caution, Advisory Panels ...
CHECKED

Purpose:

To test the FIRE WARNING SYSTEM and CAUTION and ADVISORY lights.



1. Action

Place FIRE TEST switch ON (up) and hold

2. Result

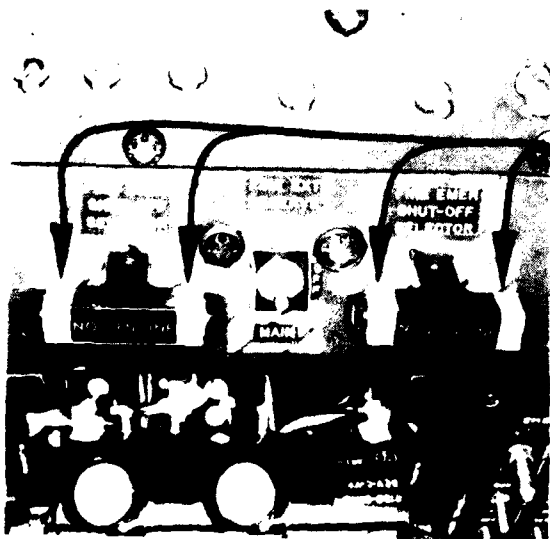
No. 1 ENG and No. 2 ENG panel FIRE lights illuminate

3. Result

4 lights illuminate
 (2 in No. 1 ENGINE SELECTOR handle)
 (2 in No. 2 ENGINE SELECTOR handle)

4. Action

Release FIRE TEST switch

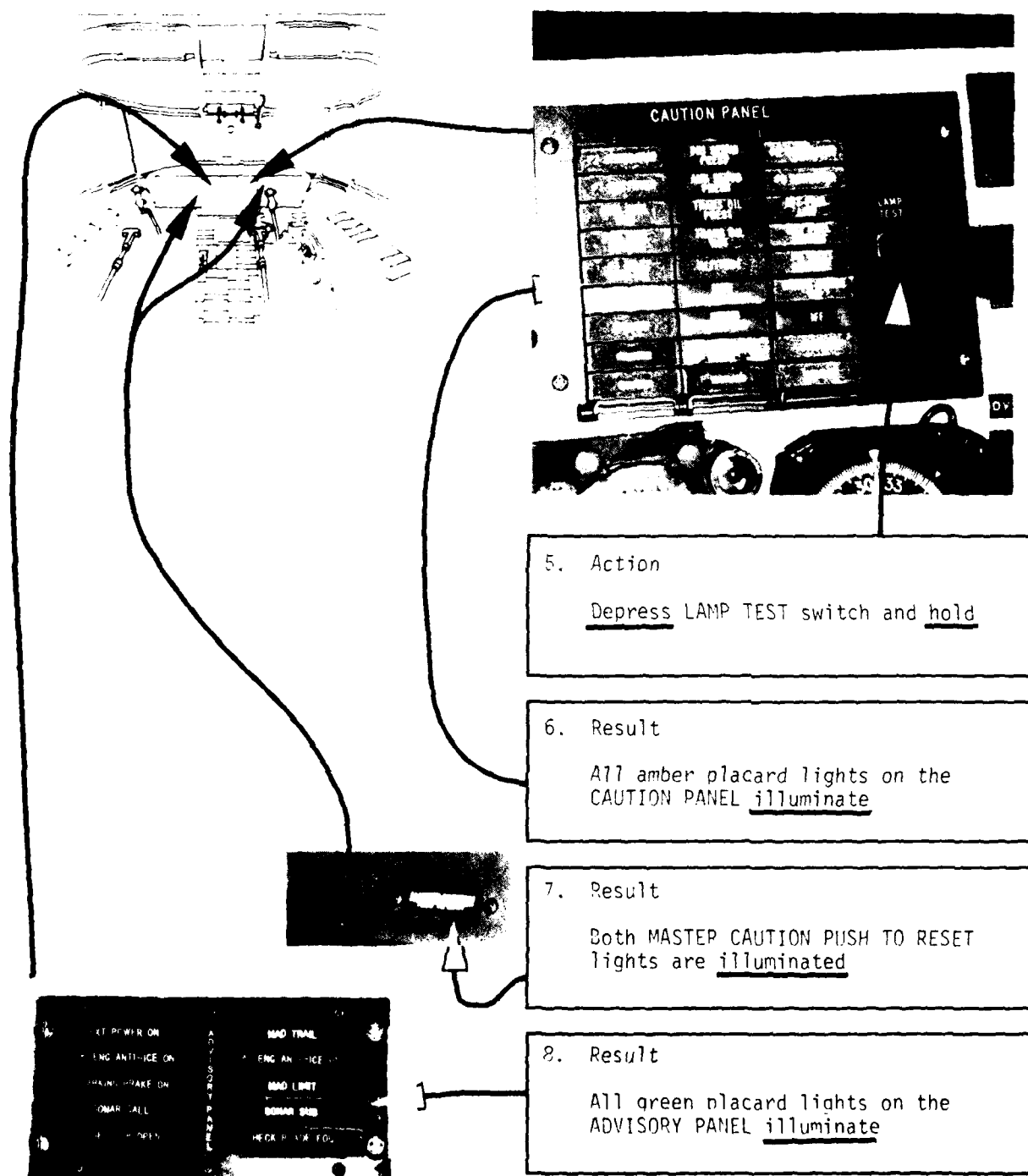


GO TO PAPER MOCK-UP

• STEP THROUGH ITEM
 TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 18. Fire Warning, Caution, Advisory Panels ... CHECKED

Purpose: To test the FIRE WARNING SYSTEM and CAUTION and ADVISORY lights.



5. Action

Depress LAMP TEST switch and hold

6. Result

All amber placard lights on the CAUTION PANEL illuminate

7. Result

Both MASTER CAUTION PUSH TO RESET lights are illuminated

8. Result

All green placard lights on the ADVISORY PANEL illuminate

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 18. Fire Warning, Caution, Advisory Panels
CHECKED

Purpose: To test the FIRE WARNING SYSTEM and CAUTION and ADVISORY lights.

CAUTION PANEL

9. Action
Release LAMP TEST switch

10. Result
Six amber placard lights on CAUTION PANEL remain illuminated

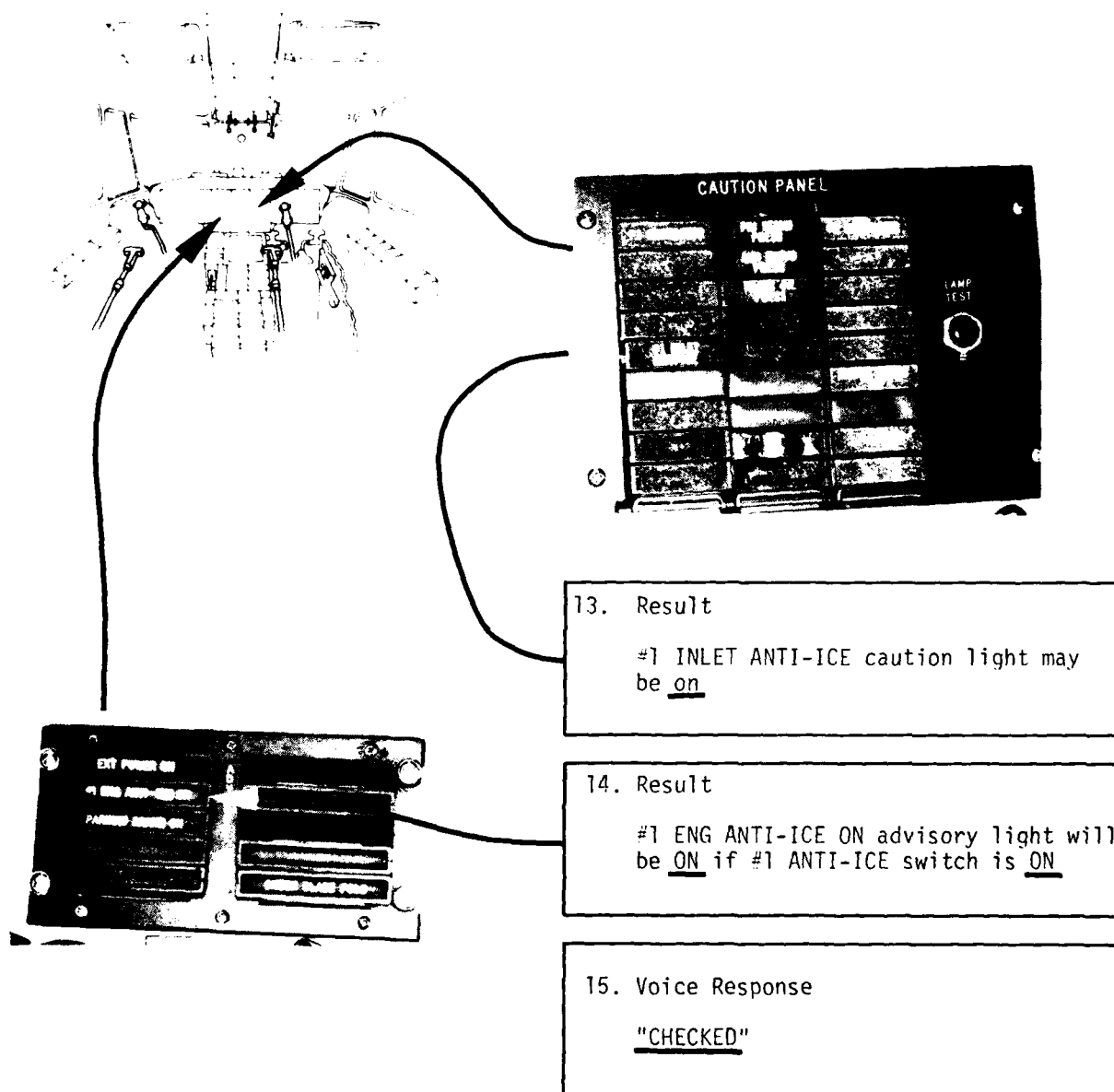
11. Result
 Both MASTER CAUTION lights go off.
 If lights remain on, push either MASTER CAUTION light to reset light off

12. Result
Two green placard lights on ADVISORY PANEL remain illuminated.
 CHECK BLADE FOLD will be illuminated if blades are folded

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
 • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 18. Fire Warning, Caution, Advisory Panels
CHECKED

Purpose: To test the FIRE WARNING SYSTEM and CAUTION and ADVISORY lights.

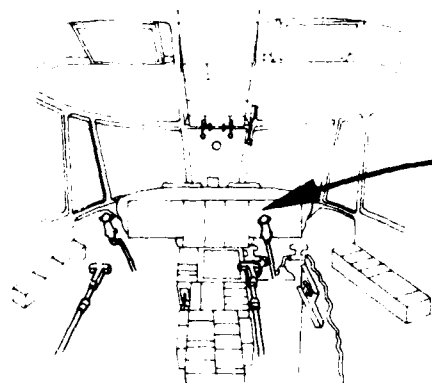


GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 18. Fire Warning, Caution, Advisory Panels ...
CHECKED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Place FIRE TEST switch ()
and hold

2. Result

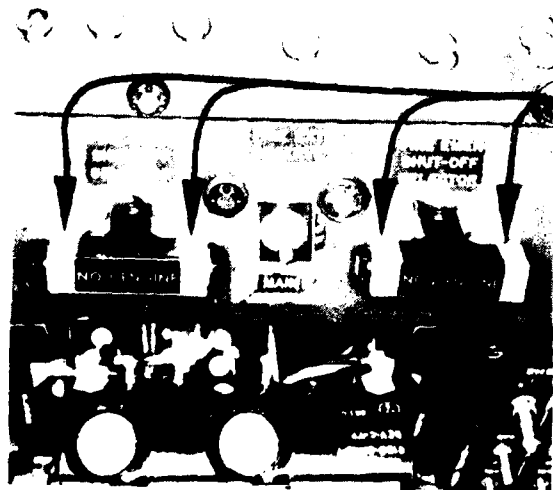
No. 1 ENG and No. 2 ENG panel FIRE
lights

3. Result

lights illuminate
in No. 1 ENGINE SELECTOR handle
in No. 2 ENGINE SELECTOR handle

4. Action

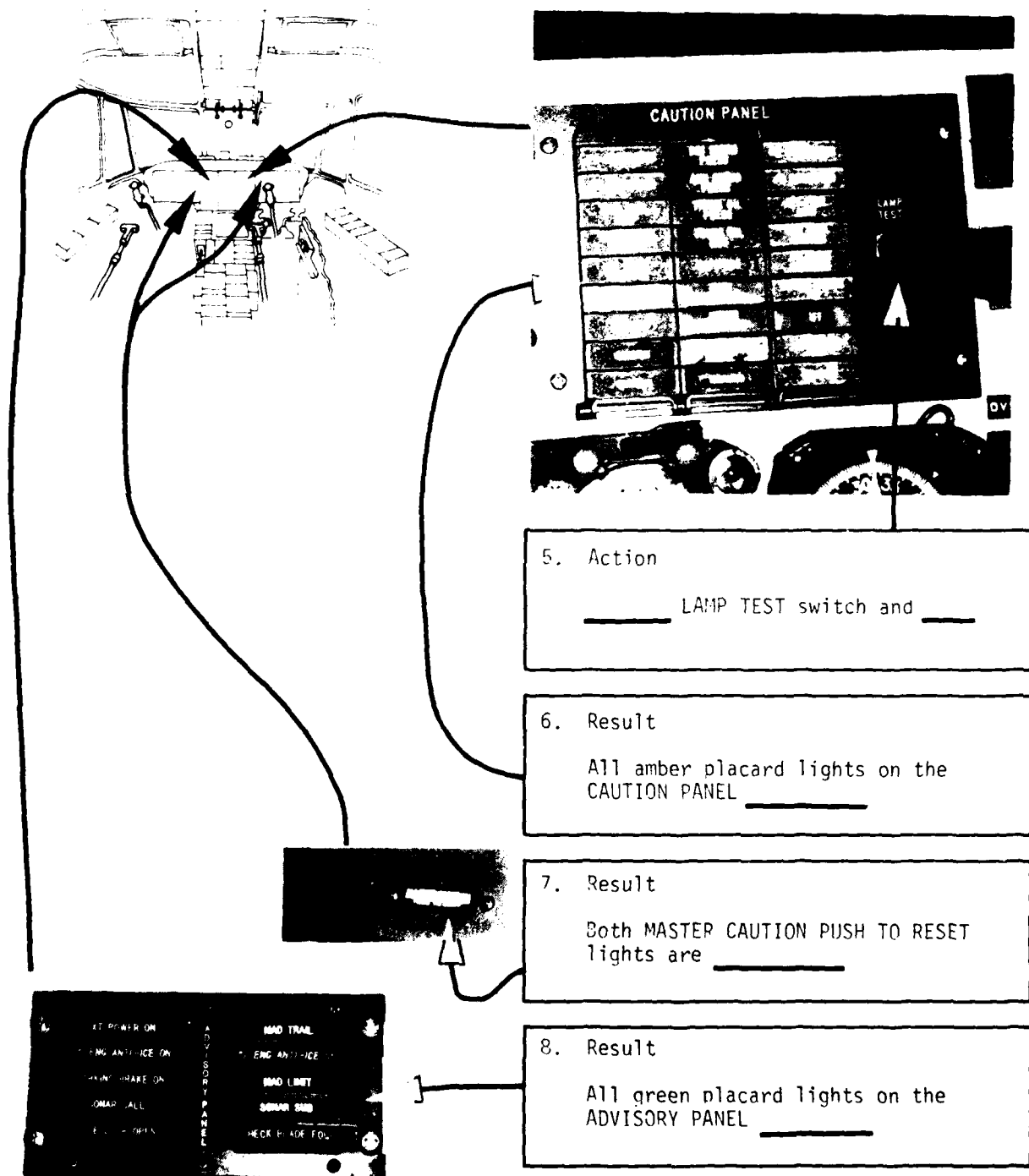
 FIRE TEST switch



AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 18. Fire Warning, Caution, Advisory Panels ...
CHECKED



5. Action

_____ LAMP TEST switch and _____

6. Result

All amber placard lights on the CAUTION PANEL _____

7. Result

Both MASTER CAUTION PUSH TO RESET lights are _____

8. Result

All green placard lights on the ADVISORY PANEL _____

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 18. Fire Warning, Caution, Advisory Panels
CHECKED



9. Action

_____ LAMP TEST switch

10. Result

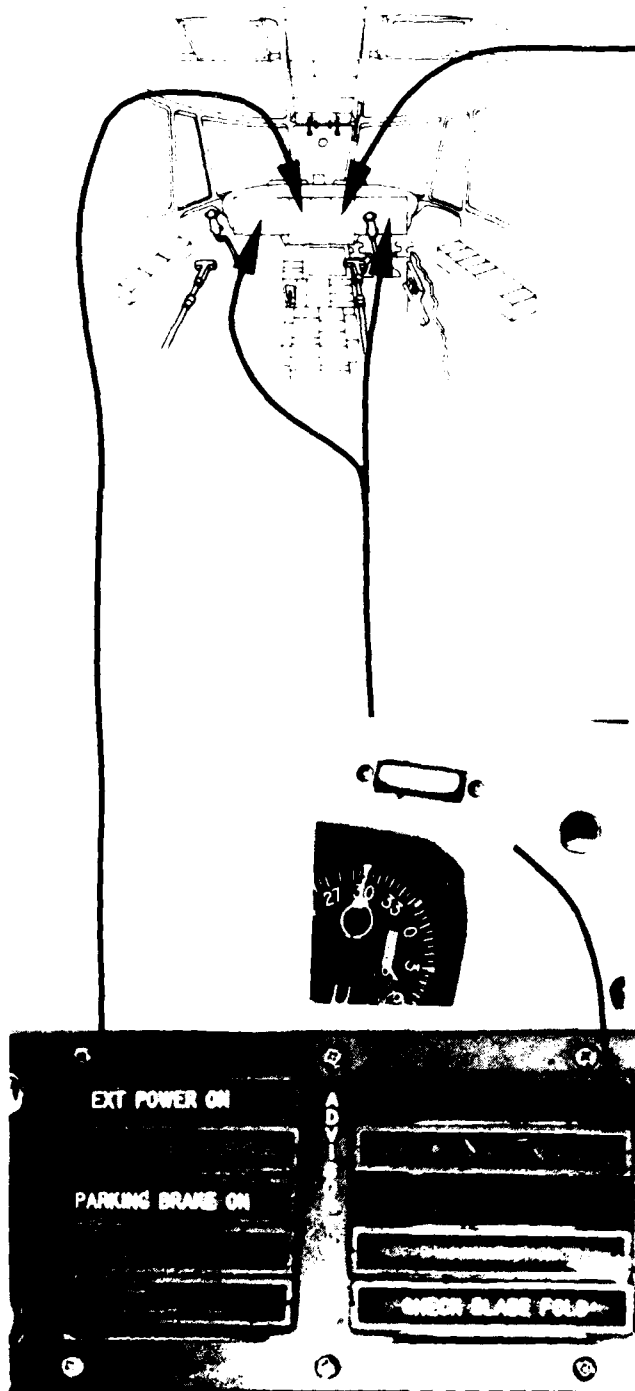
_____ amber placard lights on CAUTION PANEL remain illuminated

11. Result

Both MASTER CAUTION lights go _____.
 If lights remain ____, push either
 MASTER CAUTION light to reset light

12. Result

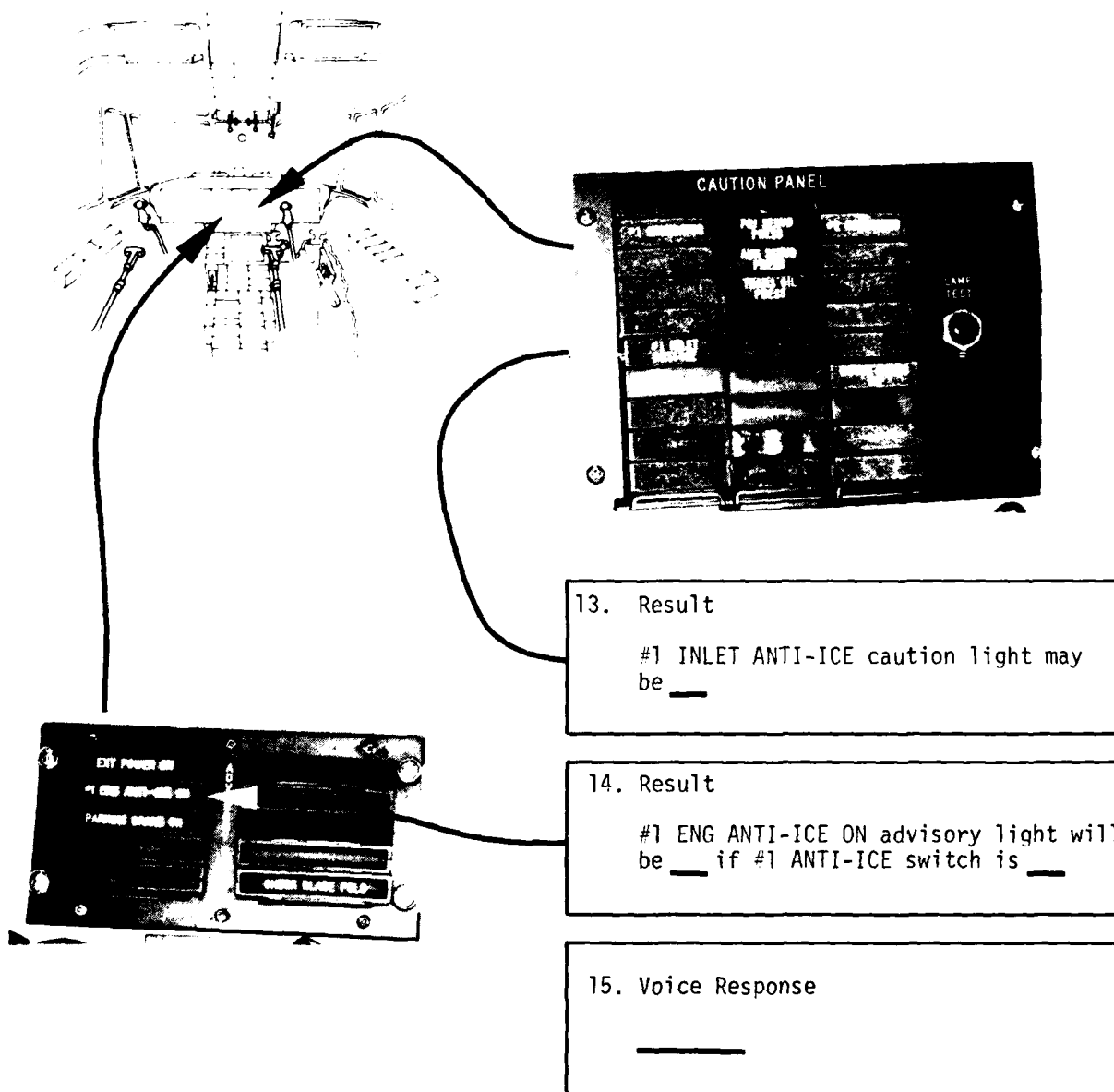
_____ green placard lights on ADVISORY PANEL remain illuminated.
 CHECK BLADE FOLD will be illuminated
 if blades are _____



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
 RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 18. Fire Warning, Caution, Advisory Panels
CHECKED



The diagram illustrates the electrical connections for the engine anti-ice system. A cockpit panel on the left contains a switch labeled '#1 ENG ANTI-ICE ON' and a 'LAMP TEST' button. A 'CAUTION PANEL' in the center features a grid of lights, including the '#1 INLET ANTI-ICE' light. Wires connect the cockpit switch to the caution panel and the cockpit panel to a lower engine anti-ice panel. Arrows indicate the flow of current from the cockpit switch to the caution panel and then to the engine anti-ice panel.

13. Result
 #1 INLET ANTI-ICE caution light may be ____

14. Result
 #1 ENG ANTI-ICE ON advisory light will be ____ if #1 ANTI-ICE switch is ____

15. Voice Response

AGAIN, GO TO PAPER MOCK-UP

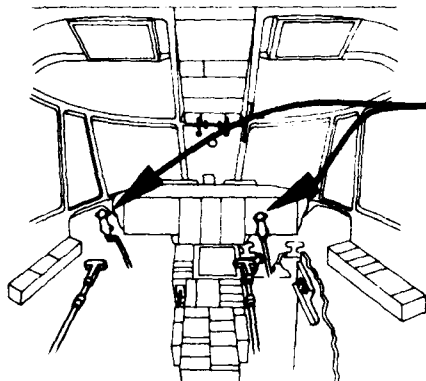
● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
 RECALL WHAT TO DO WITHOUT HESITATING

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NORMAL START CHECKLIST ITEM NO. 19. PMS Disable Switch (SH-3H) PULL

Purpose:

To provide electrical overspeed protection during engine starting.



1. Action

Pull PMS Disable switch on Pilot's cyclic out

2. Action

Pull PMS Disable switch on Copilot's cyclic out

3. Note

If either button is depressed, no electrical overspeed protection is available

4. Voice Response

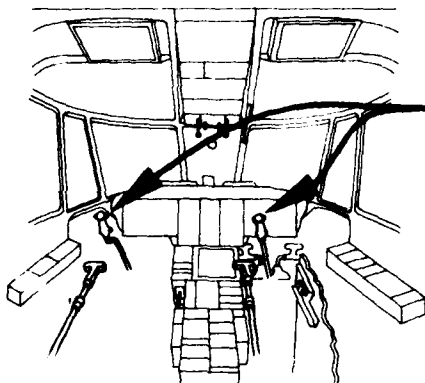
"PULL"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 19. PMS Disable Switch (SH-3H) PULL

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER – NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

 PMS Disable switch on
Pilot's cyclic out

2. Action

 PMS Disable switch on Copilot's
cyclic out

3. Note

If either button is , no
electrical overspeed protection
is available

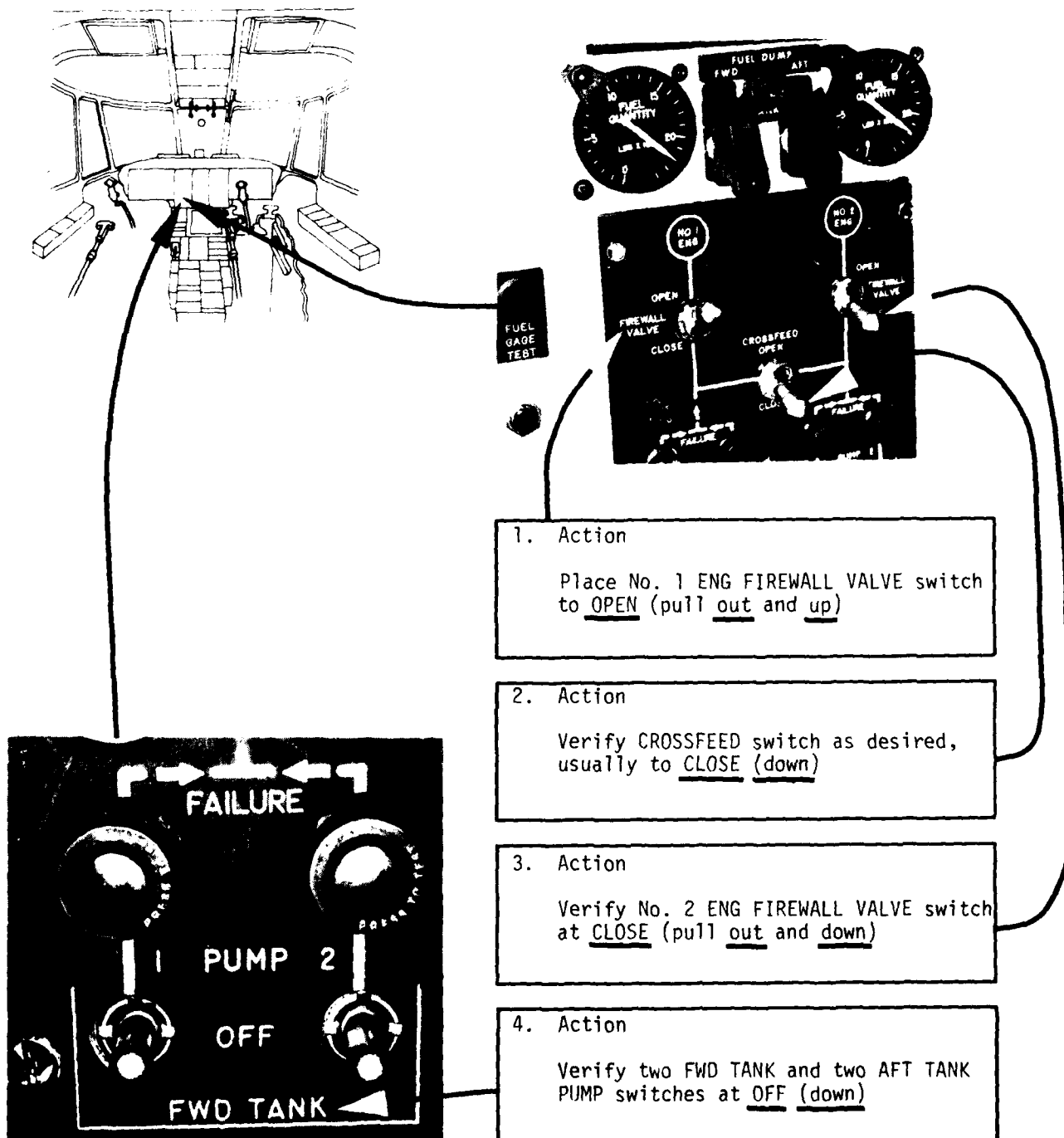
4. Voice Response

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 20. Fuel Panel/Quantity CHECKED

Purpose: To set the Fuel Panel switches for starting No. 1 engine and to test the fuel quantity gages for proper operation.



1. Action

Place No. 1 ENG FIREWALL VALVE switch at OPEN (pull out and up)

2. Action

Verify CROSSFEED switch as desired, usually at CLOSE (down)

3. Action

Verify No. 2 ENG FIREWALL VALVE switch at CLOSE (pull out and down)

4. Action

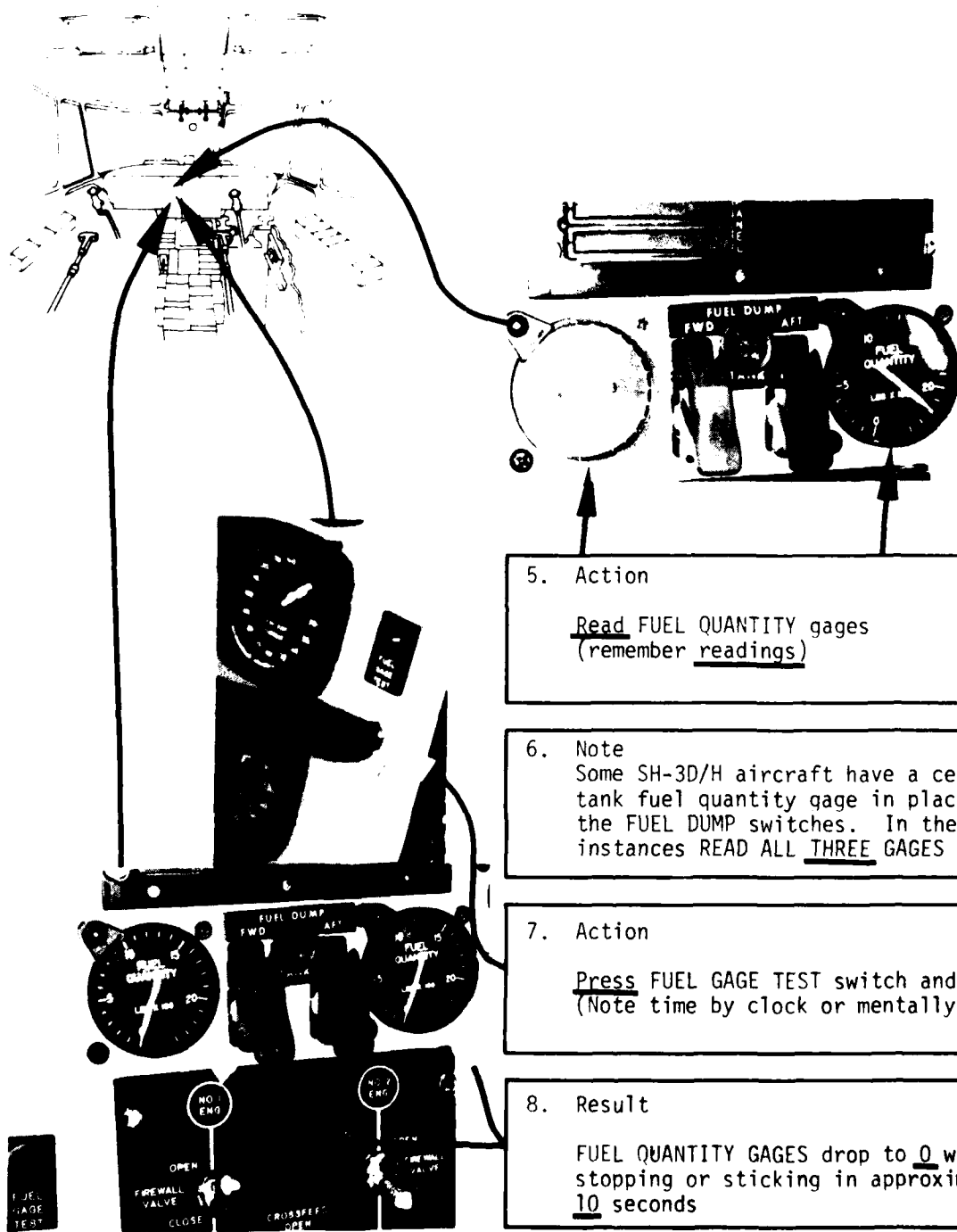
Verify two FWD TANK and two AFT TANK PUMP switches at OFF (down)

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 20. Fuel Panel/Quantity CHECKED

Purpose:

To set the Fuel Panel switches for starting No. 1 engine and to test the fuel quantity gages for proper operation.



5. Action

Read FUEL QUANTITY gages
(remember readings)

6. Note

Some SH-3D/H aircraft have a center tank fuel quantity gage in place of the FUEL DUMP switches. In these instances READ ALL THREE GAGES

7. Action

Press FUEL GAGE TEST switch and hold.
(Note time by clock or mentally)

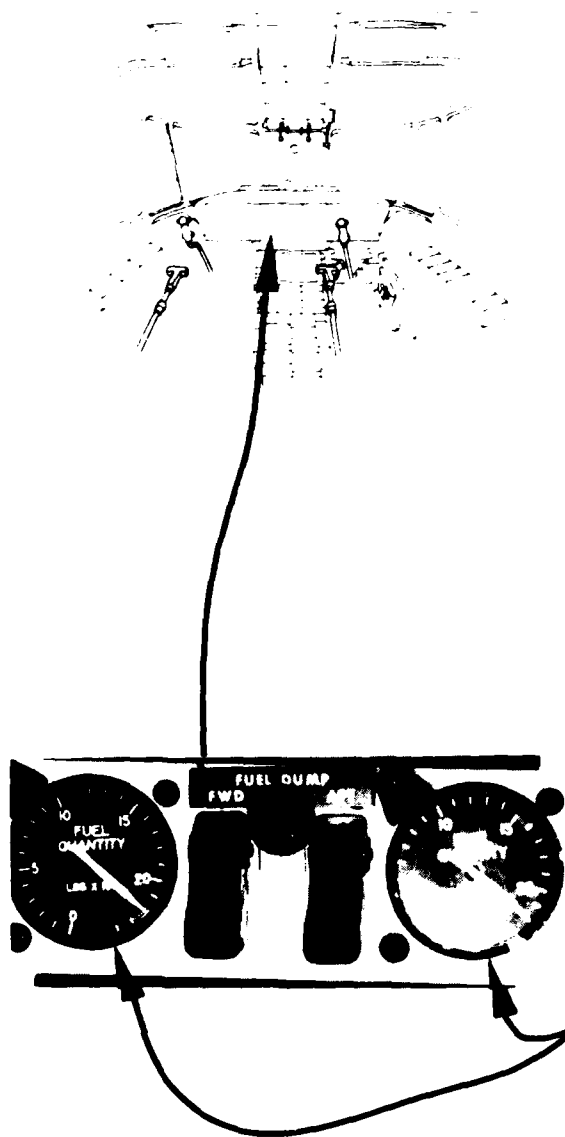
8. Result

FUEL QUANTITY GAGES drop to 0 without stopping or sticking in approximately 10 seconds

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 20. Fuel Panel/Quantity CHECKED

Purpose: To set the Fuel Panel switches for starting No. 1 engine and to test the fuel quantity gages for proper operation.



9. Action

Release FUEL GAGE TEST switch

10. Result

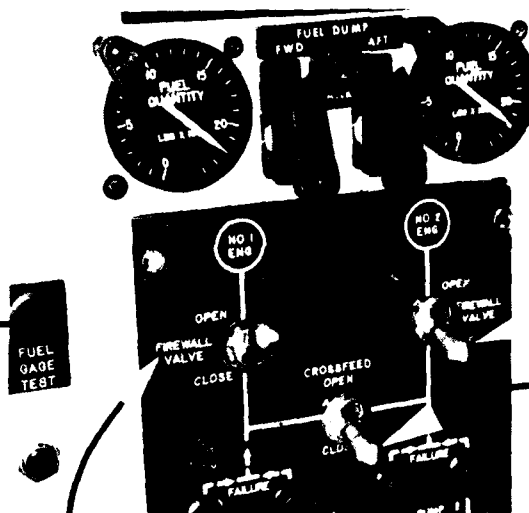
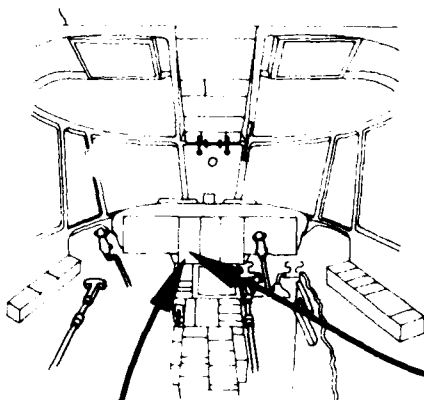
FUEL QUANTITY GAGES return to readings noted in step 5

11. Voice Response

"CHECKED"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 20. Fuel Panel/Quantity CHECKED



1. Action

Place No. 1 ENG FIREWALL VALVE switch to ____ (pull ____ and ____)

2. Action

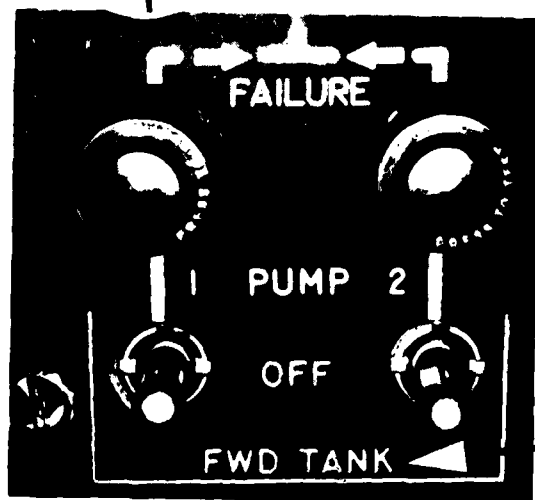
Verify CROSSFEED switch as desired, usually to ____ (____)

3. Action

Verify No. 2 ENG FIREWALL VALVE switch at ____ (pull ____ and ____)

4. Action

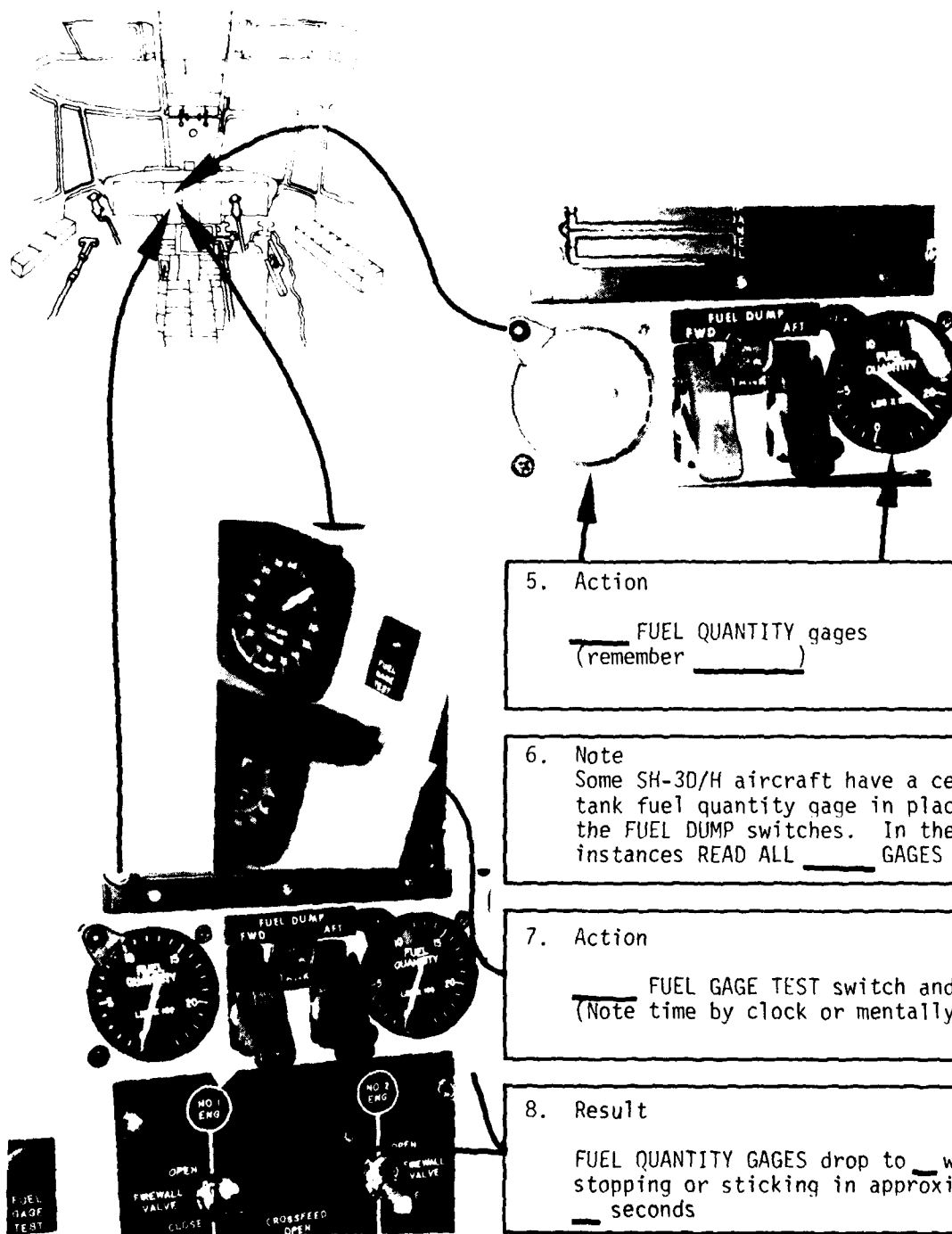
Verify two FWD TANK and two AFT TANK PUMP switches at ____ (____)



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 20. Fuel Panel/Quantity CHECKED



5. Action

___ FUEL QUANTITY gages
(remember ___)

6. Note

Some SH-3D/H aircraft have a center tank fuel quantity gage in place of the FUEL DUMP switches. In these instances READ ALL ___ GAGES

7. Action

___ FUEL GAGE TEST switch and ___
(Note time by clock or mentally)

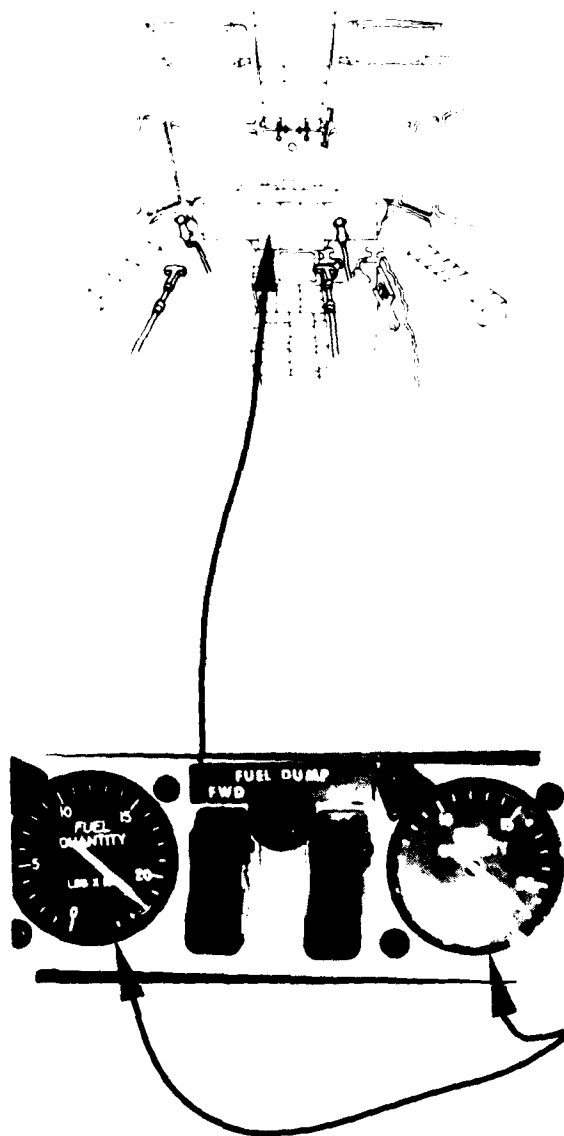
8. Result

FUEL QUANTITY GAGES drop to ___ without stopping or sticking in approximately ___ seconds

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 20. Fuel Panel/Quantity CHECKED



9. Action

_____ FUEL GAGE TEST switch

10. Result

FUEL QUANTITY GAGES _____ to readings noted in step 5

11. Voice Response

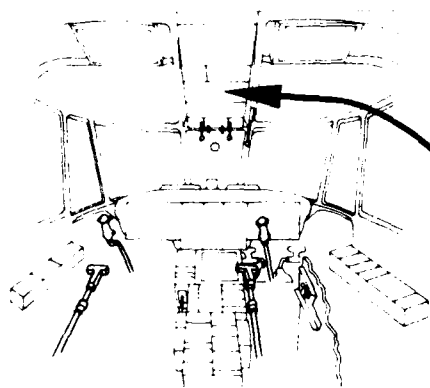
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 21. Battery Switch ON

Purpose:

To prevent damage to the rotor system if external power is lost during No. 1 engine start.



1. Action

Place BAT switch ON
(pull out and down)

2. CAUTION

Failure to have battery switch on with No. 1 engine running and blades folded may result in damage to the swashplate and rotary wing head with inadvertent loss of external power

3. Voice Response

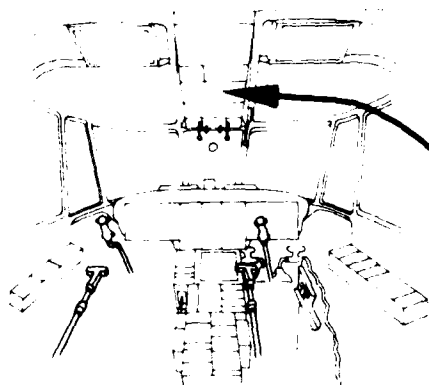
"ON"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 21. Battery Switch ON

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Place BAT switch
(pull ___ and ___)

2. CAUTION

Failure to have battery switch on with No. 1 engine running and blades folded may result in damage to the swashplate and rotary wing head with inadvertent loss of external power

3. Voice Response

—

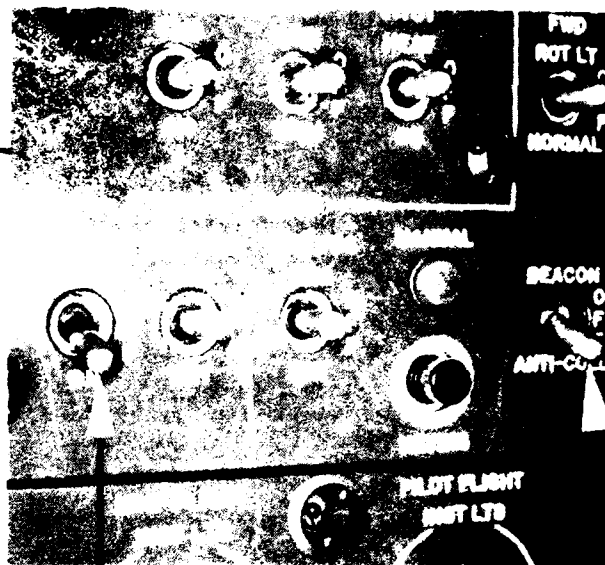
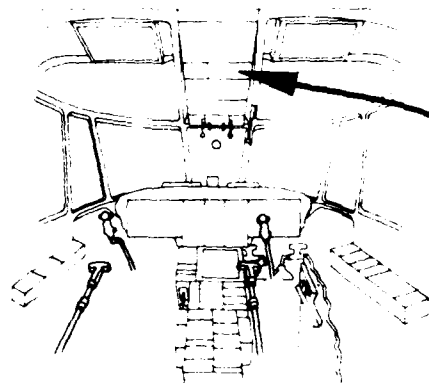
AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 22. Lights AS REQUIRED

Purpose:

To signal the ground personnel that you are starting No. 1 engine.



1. Action

Place the EXTERIOR LIGHTS MASTER SWITCH forward to ON position

2. Action

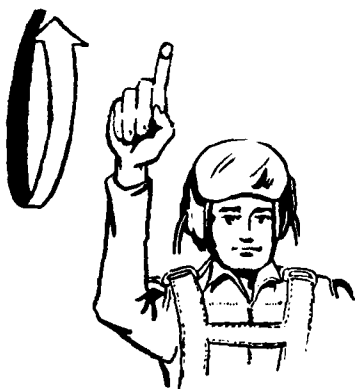
Place the BEACON/ANTI-COLL switch Upward to ANTI-COLL position

3. Action

Pilot gives Start Signal to Plane Captain

4. Voice Response

"AS REQUIRED"

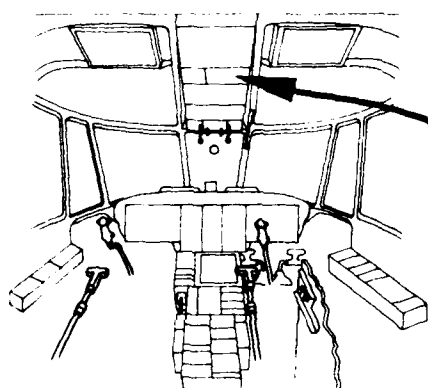


GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 22. Lights AS REQUIRED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER – NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Place the EXTERIOR LIGHTS MASTER SWITCH _____ to _____ position

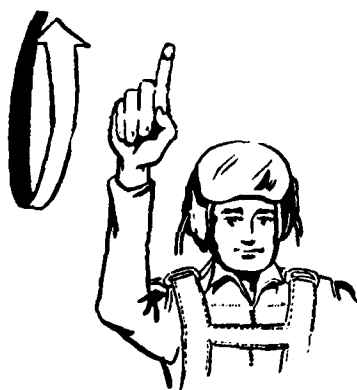
2. Action

Place the BEACON/ANTI-COLL switch _____ to _____ position

3. Action

Pilot gives _____ to Plane Captain

4. Voice Response



AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM NO. 17 through ITEM NO. 22

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST

State in your own words the Purpose

Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

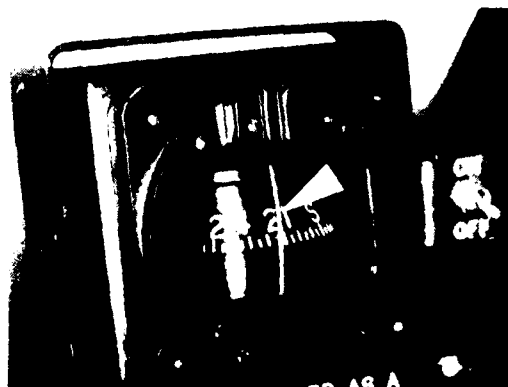
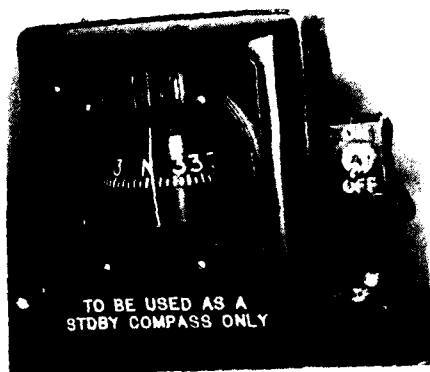
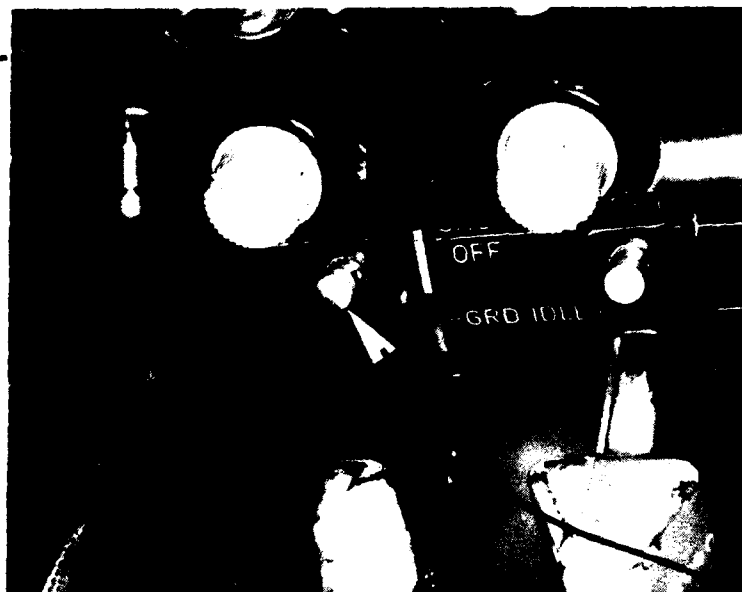
State the VOICE RESPONSE at completion of the steps

PAGES 181 THROUGH 192 INTENTIONALLY LEFT BLANK

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:

To make a Normal Start of No. 1 engine.



1. Action

Pilot brief copilot

1. Clear left side, verify fire guard
2. Start clock on starter engagement, 30 seconds maximum to starter dropout
3. Standby boost pumps at 10 Ng

2. Action

Pilot holds No. 1 engine Speed Selector in SHUTOFF and momentarily depresses No. 1 engine Starter Button
Copilot start clock

3. Result

Wet Compass (standby compass) swings erratically to a false compass reading due to the strong magnetic field setup by starter current

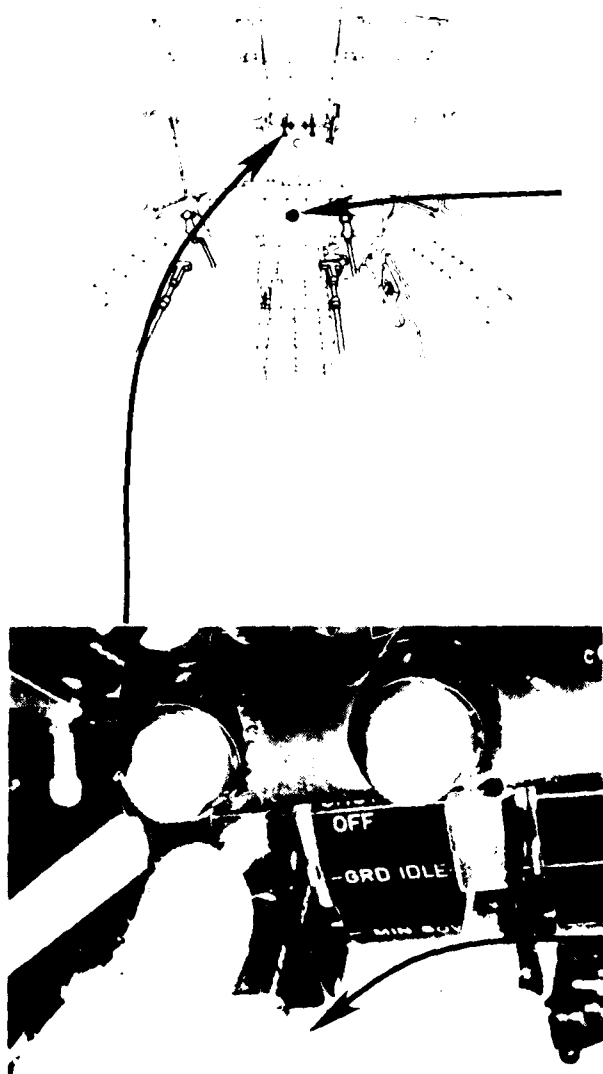
GO TO PAPER MOCK-UP

- STEP THROUGH ITEM
- TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:

To make a Normal Start of No. 1 engine.



ENG
OIL
PRESS

4. Action

Pilot verifies No. 1 engine oil pressure shows positive pressure indication as Ng accelerates toward 19.

5. IF

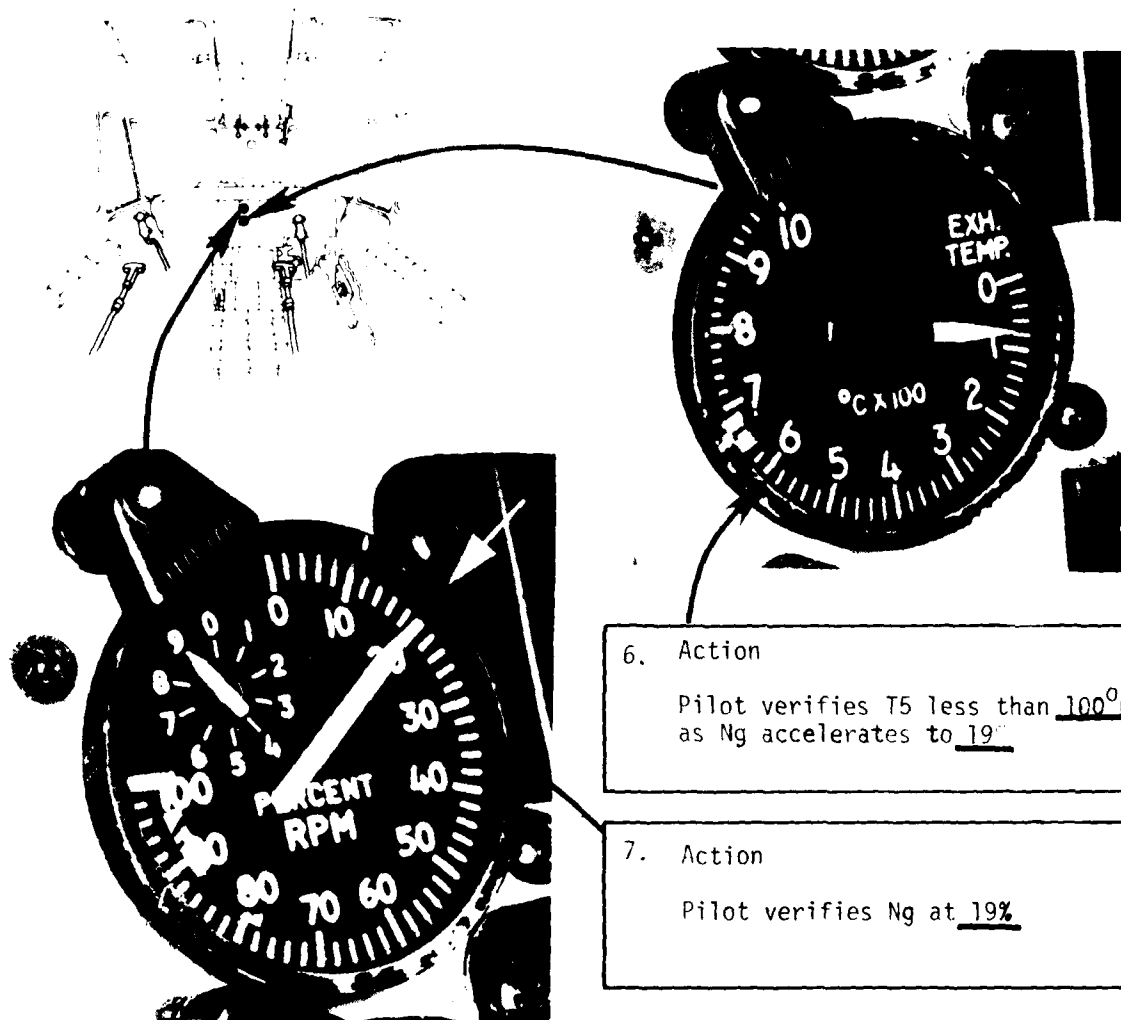
No positive oil pressure indication
THEN
Abort start by pulling down on the
No. 1 Engine Speed Selector

GO TO PAPER MOCK-UP

• STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose: To make a Normal Start of No. 1 Engine



6. Action

Pilot verifies T5 less than 100°C
as Ng accelerates to 19%

7. Action

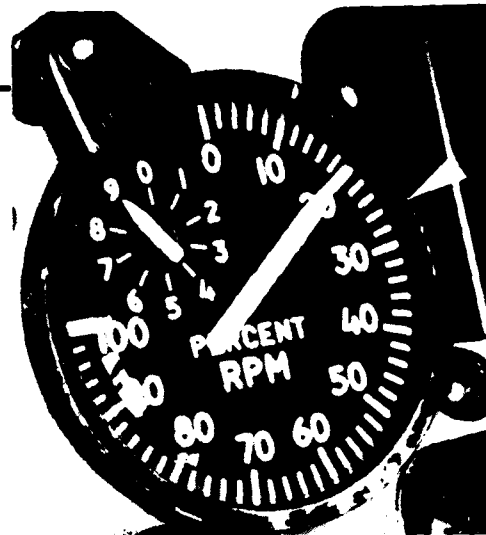
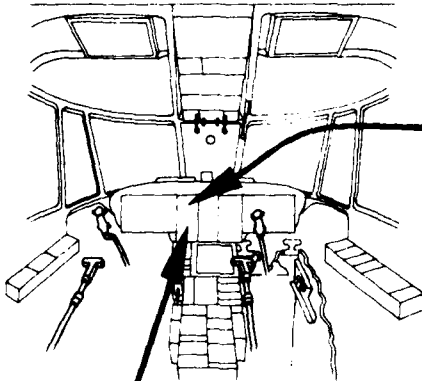
Pilot verifies Ng at 19%

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:

To make a Normal Start of No. 1 engine.



8. Action

Pilot calls for Copilot to turn on
No. 1 engine boost pumps

9. Note

If boost pumps are turned ON prior to
Ng reaching 19% there is a possibility
of washing contaminants in the fuel
purifier into the fuel control

10. Action

Copilot places FWD TANK PUMP 1 and 2
switches to ON (up)

11. Voice Response

Copilot reports BOOST PUMPS ON

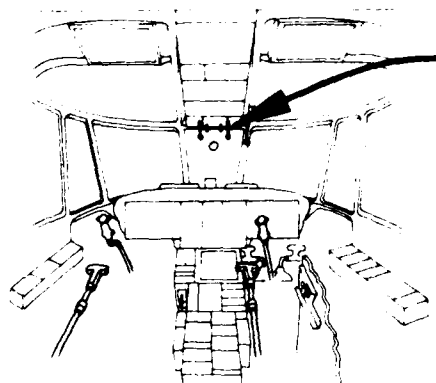


GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:

To make a Normal Start of No. 1 engine.



12. Action
Pilot advances No. 1 Speed Selector to GND IDLE and starts timing for time to lite-off not to exceed 10 seconds (mentally or by clock)

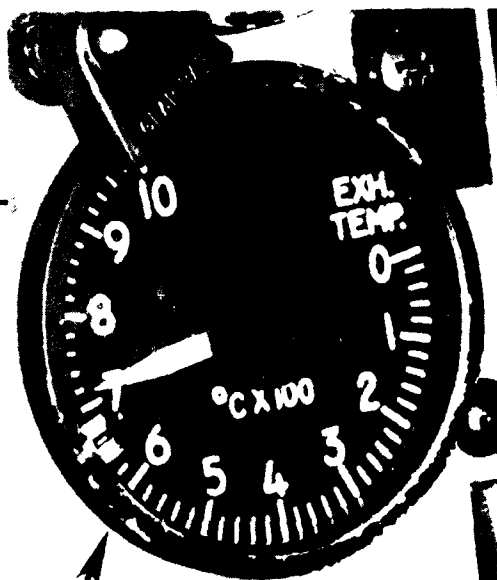
13. IF
Start is inadvertently aborted by Pilot pulling DOWN on Speed Selector
THEN
Return No. 1 Speed Selector to SHUTOFF and turn Boost Pumps OFF

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:

To make a Normal Start of No. 1 engine.



14. Action

Pilot/Copilot verify lite-off
by noting rapid rise in T5 and
Ng and Nf increasing

15. Note

Normal starts are characterized by
700-750°C T5 in 3 seconds after
lite-off

16. If T5 is increasing too rapidly or
appears to be overshooting,
then depress Engine Start Control
switch on either cyclic to aid in
limiting excessive T5

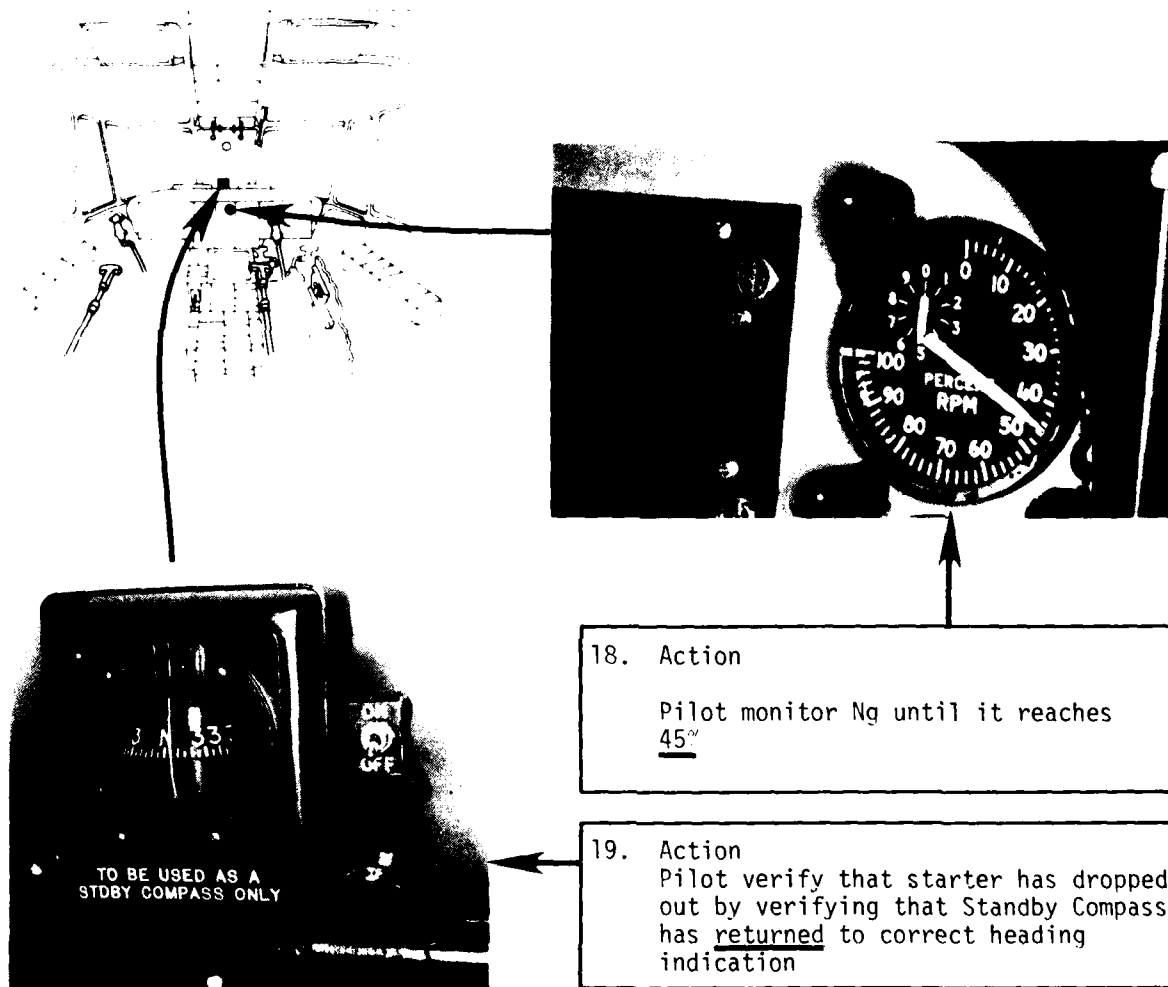
17. If T5 is rising abnormally or
reaches 840°C, then abort start
by pulling DOWN on Speed Selector
and pull AFT to SHUTOFF. Turn
boost pumps to OFF

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:

To make a Normal Start of No. 1 engine.



18. Action

Pilot monitor Ng until it reaches 45%

19. Action

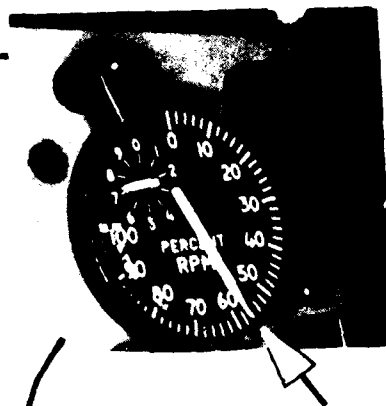
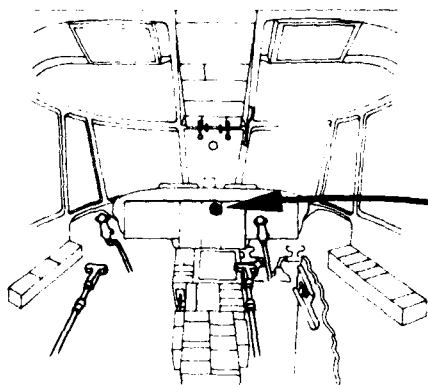
Pilot verify that starter has dropped out by verifying that Standby Compass has returned to correct heading indication

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:

To make a Normal Start of No. 1 engine.



20. Action

Pilot verify that Ng has reached
GROUND IDLE Ng 56 \pm 3%

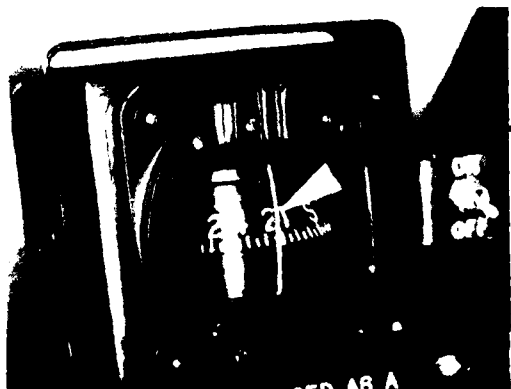
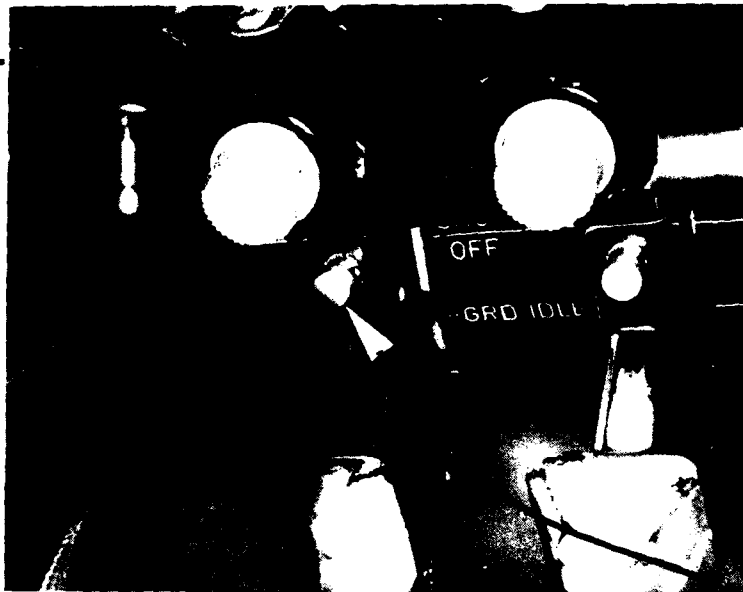
21. Voice Response

"START"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:



1. Action

Pilot brief copilot

1. Clear left side, verify fire guard
2. Start clock on starter engagement, _____ seconds maximum to starter dropout
3. Standby boost pumps at _____ Ng

2. Action

Pilot holds No. 1 engine Speed Selector in _____ and momentarily depresses No. 1 engine Starter Button
Copilot start clock

3. Result

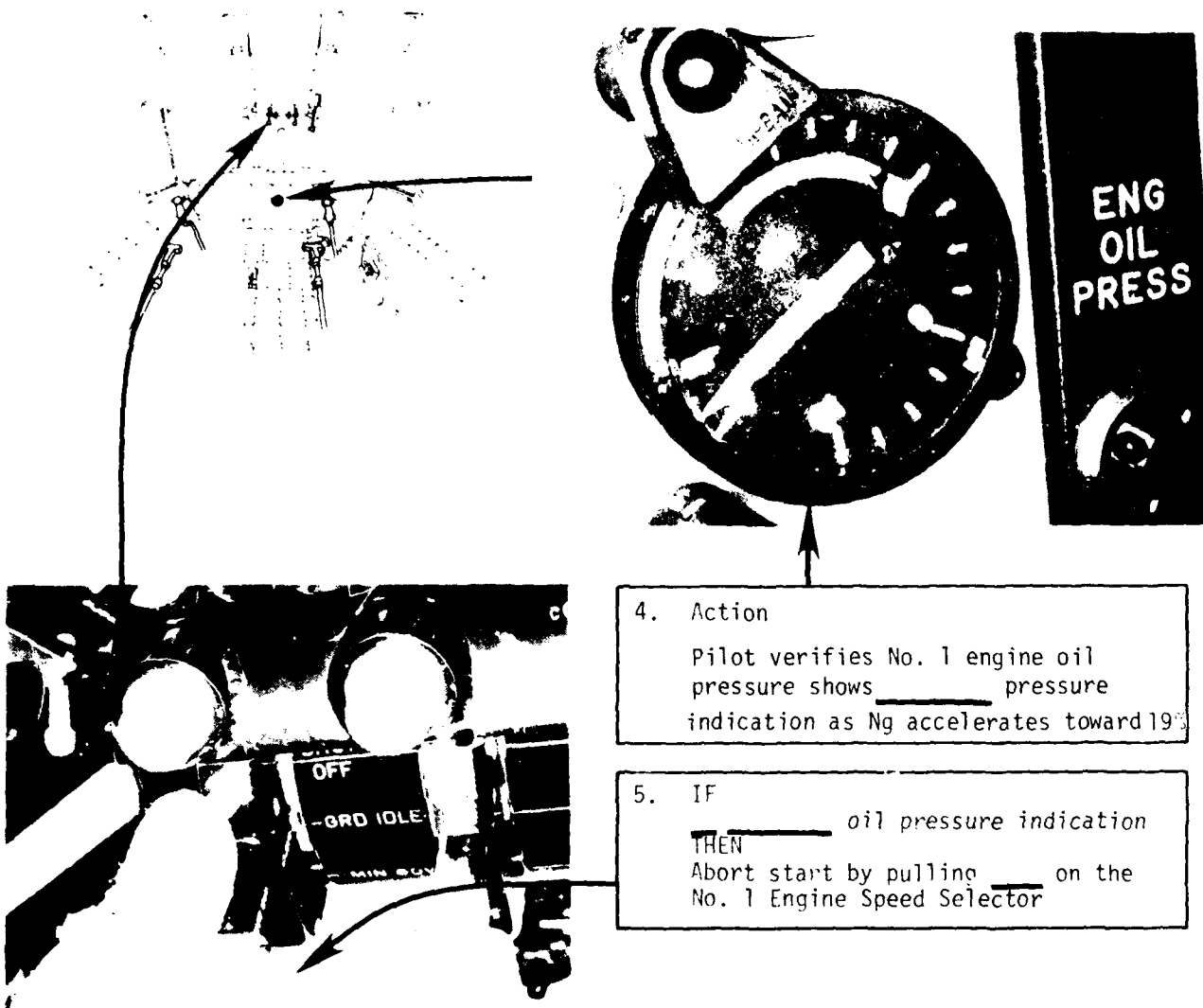
Wet Compass (standby compass) swings erratically to a false compass reading due to the strong magnetic field setup by starter current

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

Purpose:



4. Action

Pilot verifies No. 1 engine oil pressure shows _____ pressure indication as Ng accelerates toward 19%

5. IF

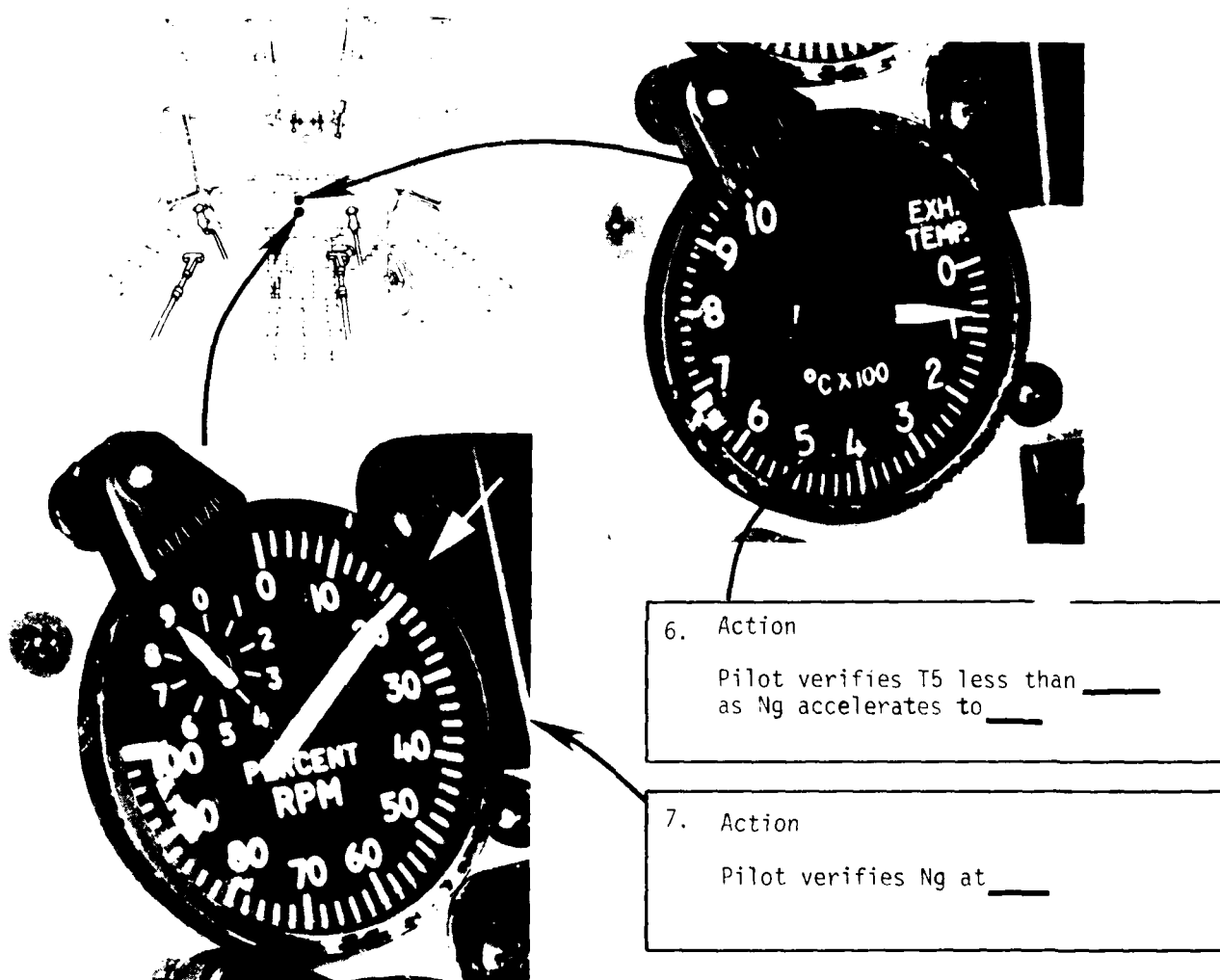
_____ oil pressure indication
THEN
Abort start by pulling _____ on the No. 1 Engine Speed Selector

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START

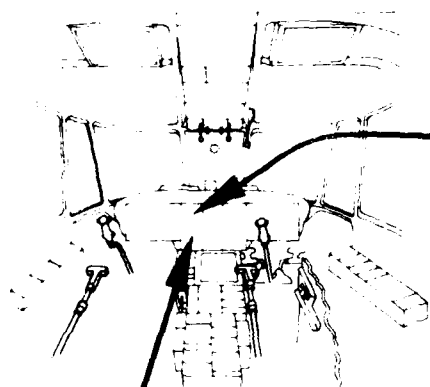
Purpose:



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START



8. Action

Pilot calls for Copilot to ____
No. 1 engine boost pumps

9. Note

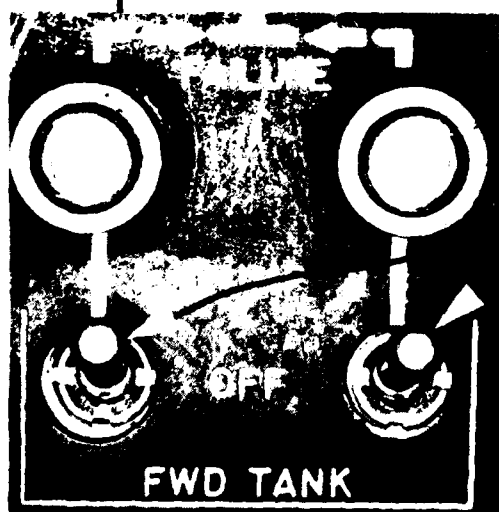
If boost pumps are turned ON prior to
Ng reaching ____ there is a possibility
of washing contaminants in the fuel
purifier into the fuel control

10. Action

Copilot places FWD TANK PUMP 1 and 2
switches to ____ ()

11. Voice Response

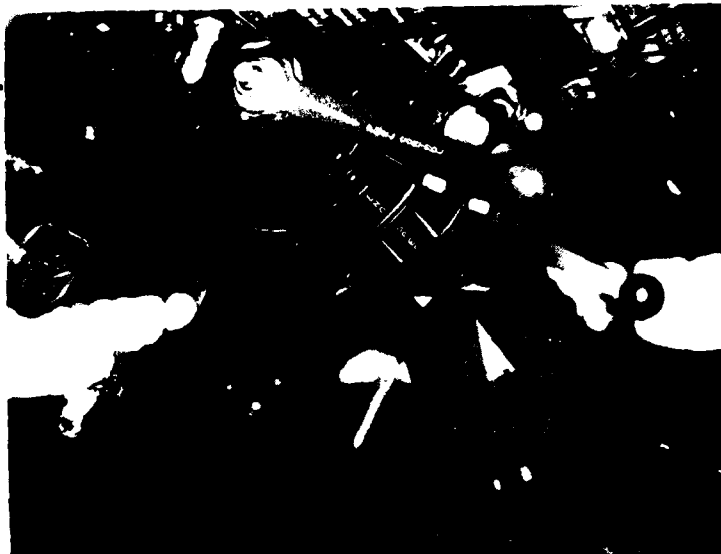
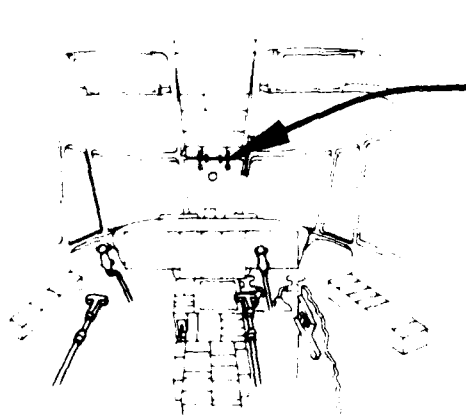
Copilot reports BOOST PUMPS ____



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START



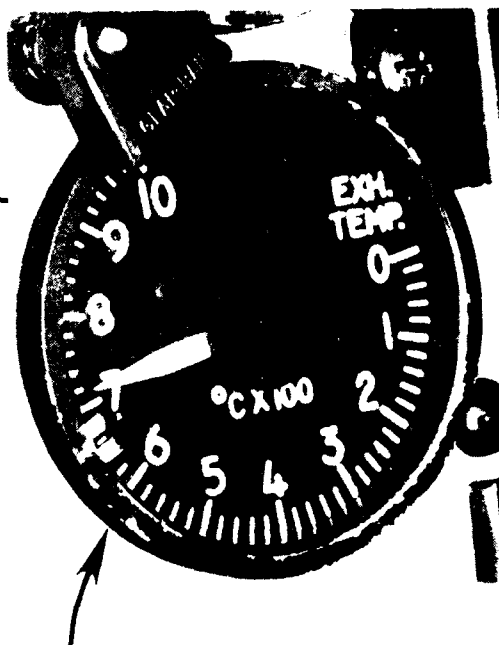
12. Action
Pilot advances No. 1 Speed Selector
to _____ and starts timing for
time to lite-off not to exceed _____
seconds (mentally or by clock) _____

13. IF
Start is inadvertently aborted by
Pilot pulling _____ on Speed Selector
THEN
Return No. 1 Speed Selector to _____
and turn Boost Pumps

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START



14. Action

Pilot/Copilot verify lite-off
by noting rapid rise in — and
Ng and Nf increasing

15. Note

Normal starts are characterized by
_____ T5 in _ seconds after
lite-off

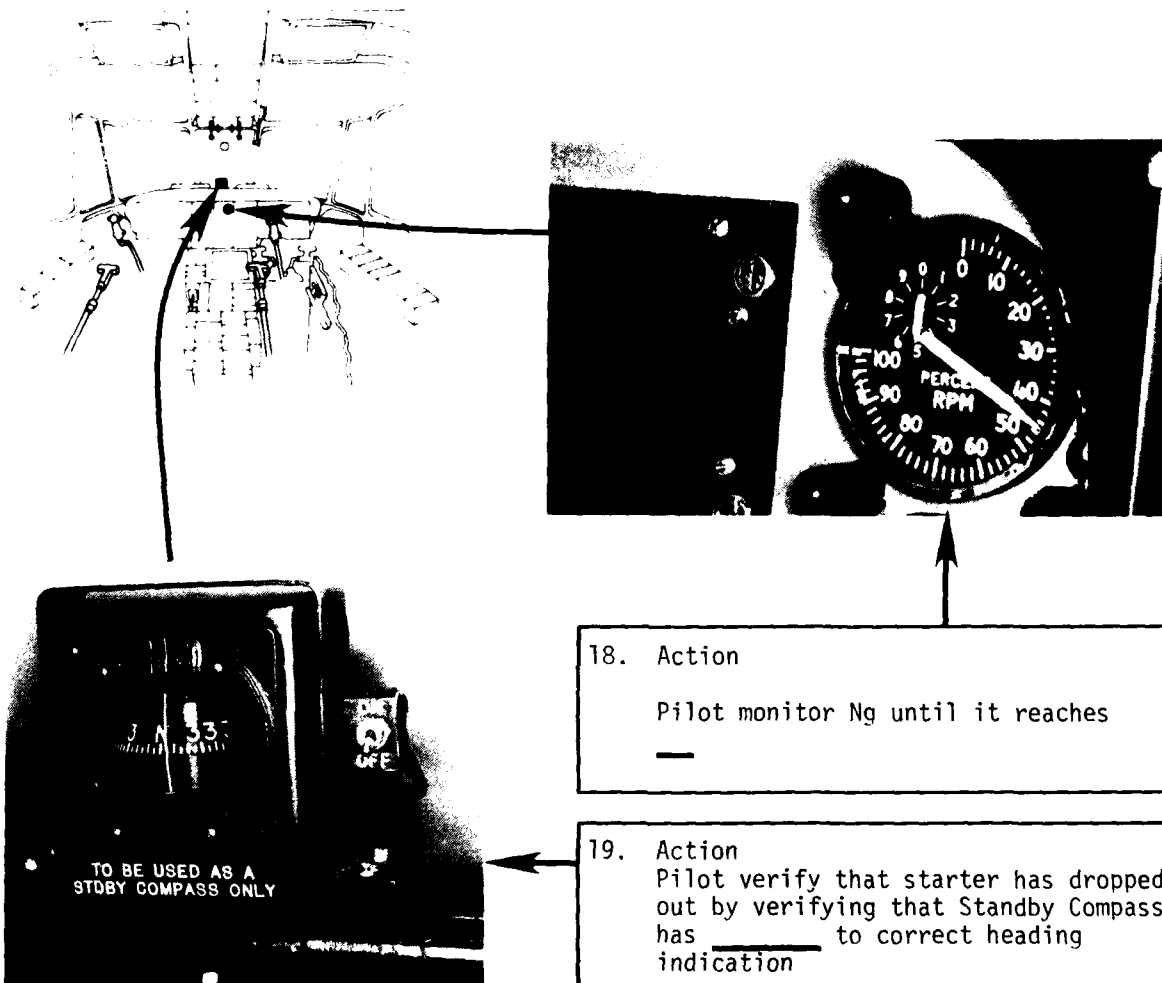
16. If T5 is increasing too rapidly or
appears to be overshooting,
then _____ Engine Start Control
switch on either cyclic to aid in
limiting excessive T5

17. If T5 is rising abnormally or
reaches _____, then abort start
by pulling _____ on Speed Selector
and pull AFT to _____. Turn
boost pumps to _____

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

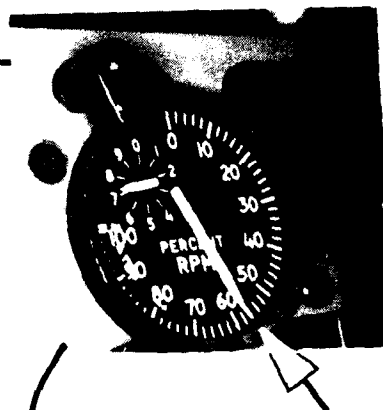
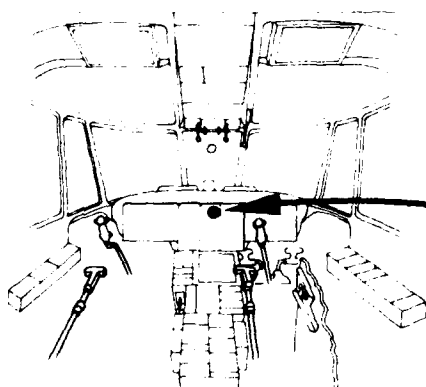
NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 23. No. 1 Engine START



20. Action

Pilot verify that Ng has reached
GROUND IDLE Ng ±

21. Voice Response

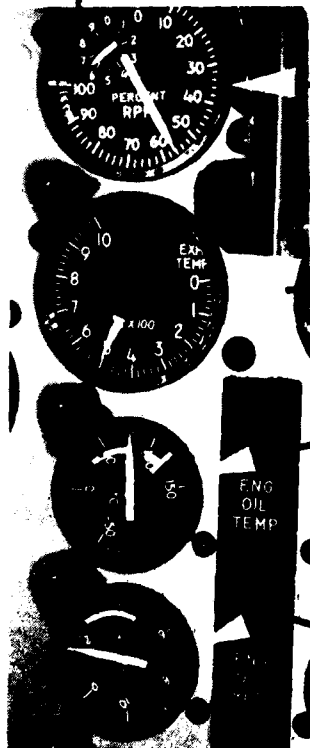
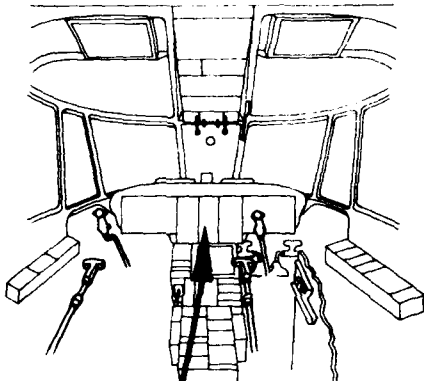
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 24. All gages CHECK

Purpose:

Check for indications of a Normal Start No. 1 Engine.



1. Action

Pilot check Ng 56 \pm 3%

2. Action

Pilot check T5 (EXH TEMP)
approximately 500^oC

3. Action

Pilot check ENG OIL TEMP rising
or within range (normal range 35^oC
to 121^oC)

4. Action

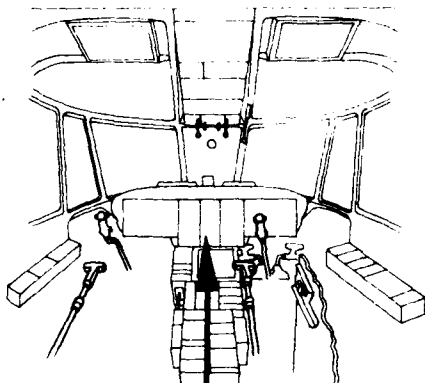
Pilot check ENG OIL PRESS 10 psi or
above (normal range 25 to 60 psi)

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 24. All gages CHECK

Purpose:

Check for indications of a Normal Start No. 1 Engine.



5. Action

Pilot check PRESS XMSN above 12 psi
(normal range 45 to 90 psi)

6. Action

Pilot check OIL TEMP XMSN rising
or within range(normal range is
40°C to 120°C)

7. Action

Pilot check AUX HYD PRESS Normal
(normal range is 1300 to 1600 psi)

8. Action

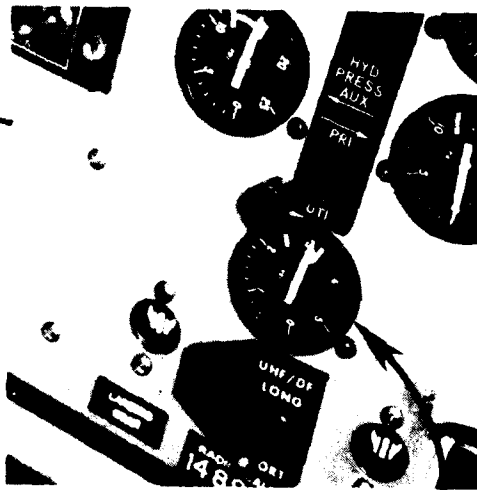
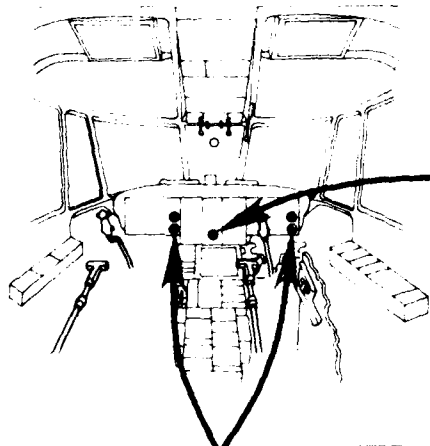
Pilot check PRI HYD PRESS Zero if
blades folded (normal range 1300
to 1600 psi)

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 24. All gages CHECK

Purpose:

Check for indications of a Normal Start No. 1 Engine.



9. Action

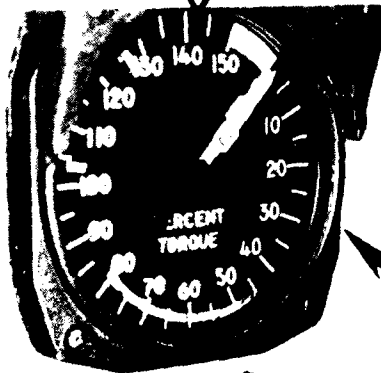
Pilot check UTL HYD PRESS Normal
(normal range is 2600 to 3150 psi)

10. Action

Pilot/Copilot check No. 1 Torque
Zero

11. Action

Pilot/Copilot check No. 1 Nf (free
Turbine) speed approximately 45
to 55%

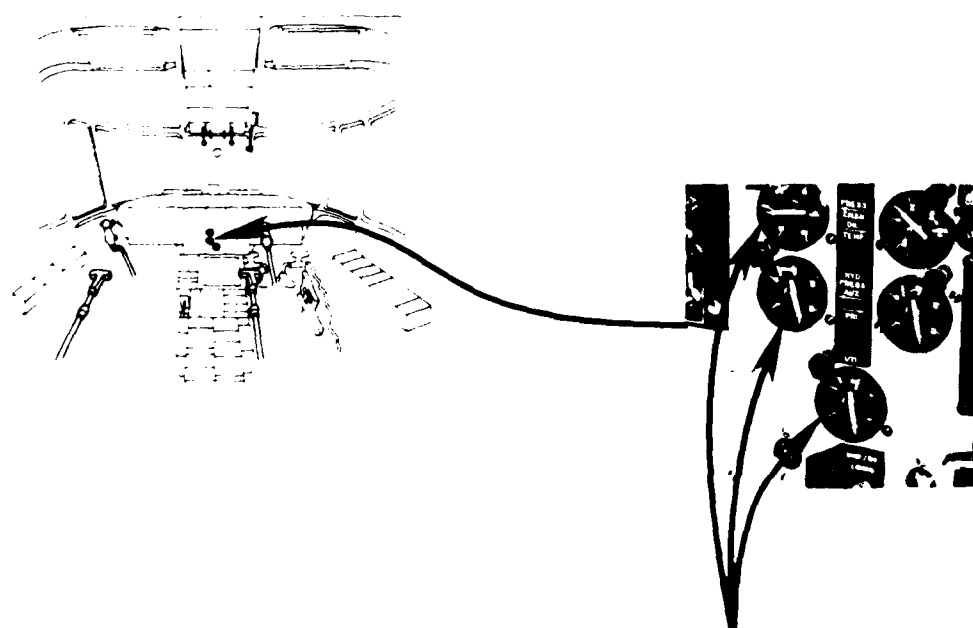


GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 24. All gages CHECK

Purpose:

Check for indications of a Normal Start No. 1 Engine.



12. CAUTION
Upon initial indication of a lack of
accessory drive when operating in
accessory, the engine should be shut
down immediately and not restarted

13. Voice Response

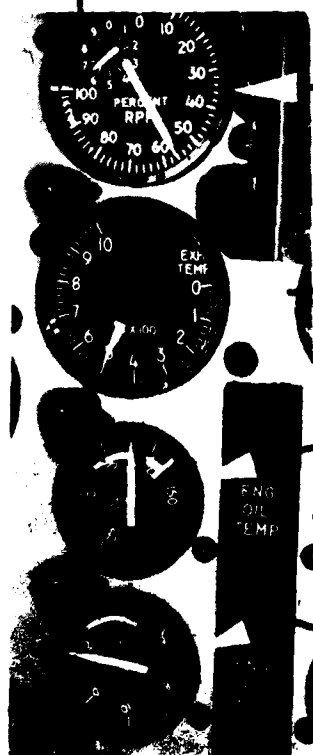
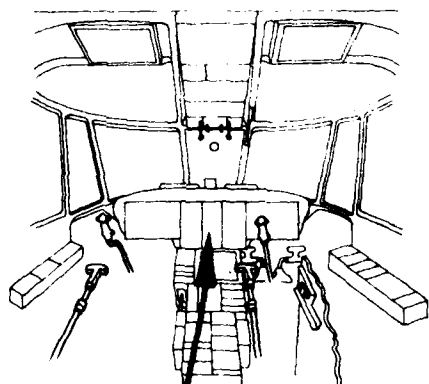
"CHECK"

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 24. All gages CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Pilot check Ng ±

2. Action

Pilot check T5 (EXH TEMP)
approximately

3. Action

Pilot check ENG OIL TEMP
or within range (normal range
to)


4. Action

Pilot check ENG OIL PRESS psi or
above (normal range to psi)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 24. All gages CHECK



The diagram shows a top-down view of a helicopter cockpit. A line from the instrument panel points to a detailed view of the instrument panel below. This detailed view includes several gauges: a central vertical stack with 'PRESS XMSN OIL TEMP' and 'HYD PRESS AUX' labels; a gauge on the left labeled 'PRESS XMSN'; a gauge on the right labeled 'OIL TEMP'; a gauge below the central stack labeled 'HYD PRESS AUX'; and a gauge at the bottom left labeled 'PRI HYD PRESS'. Callout lines connect these gauges to numbered action items on the right.

5. Action
Pilot check PRESS XMSN above ____ psi
(normal range ____ to ____ psi)

6. Action
Pilot check OIL TEMP XMSN ____
or within range(normal range is
____ to ____)

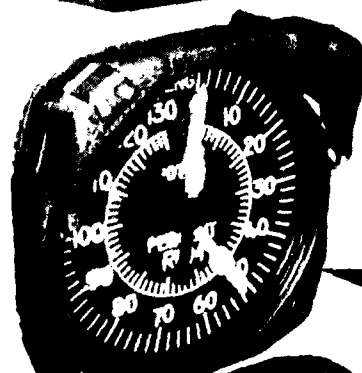
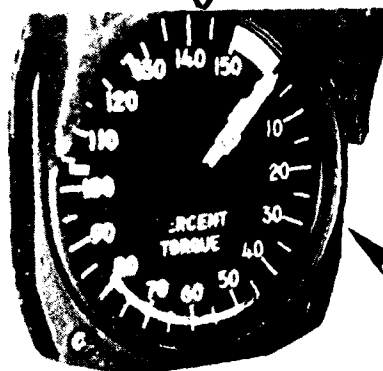
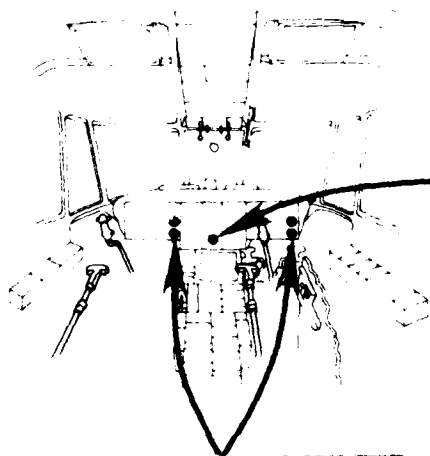
7. Action
Pilot check AUX HYD PRESS ____
(normal range is ____ to ____ psi)

8. Action
Pilot check PRI HYD PRESS ____ if
blades folded (normal range ____
to ____ psi)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 24. All gages CHECK



9. Action

Pilot check UTL HYD PRESS
(normal range is ___ to ___ psi)

10. Action

Pilot/Copilot check No. 1 Torque

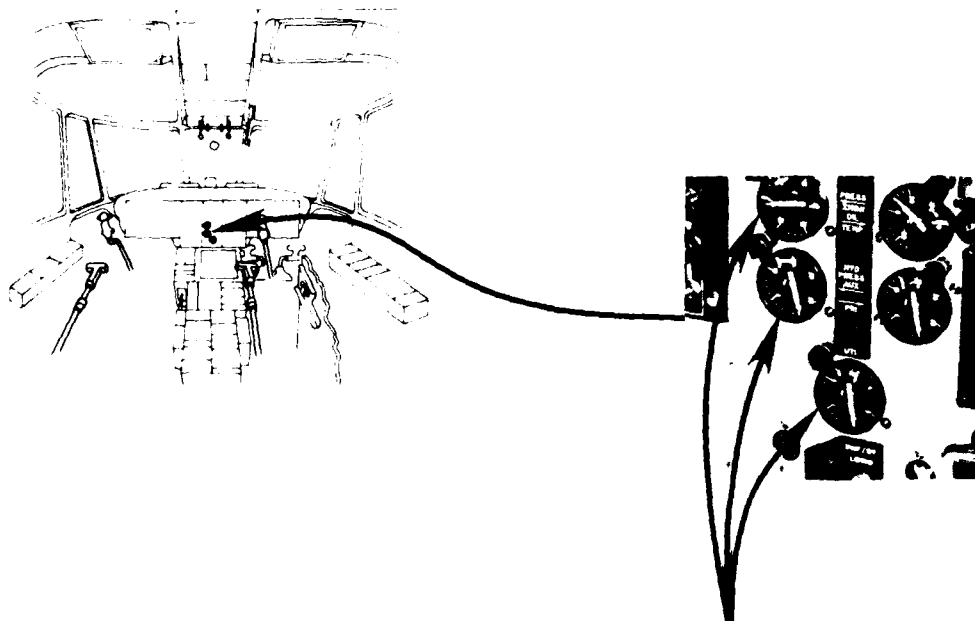
11. Action

Pilot/Copilot check No. 1 Nf (free
Turbine) speed approximately ___
to ___

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 24. All gages CHECK



12. CAUTION
Upon initial indication of a lack of
accessory drive when operating in
accessory, the engine should be shut
down _____ and not restarted

13. Voice Response

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

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AD-A113 171 TRAINING ANALYSIS AND EVALUATION GROUP (NAVY) ORLANDO FL F/6 5/9
PROCEDURE TRAINING AID FOR THE SH-3D/H NORMAL START CHECKLIST.(U)
FEB 82 R BRABY, P G SCOTT

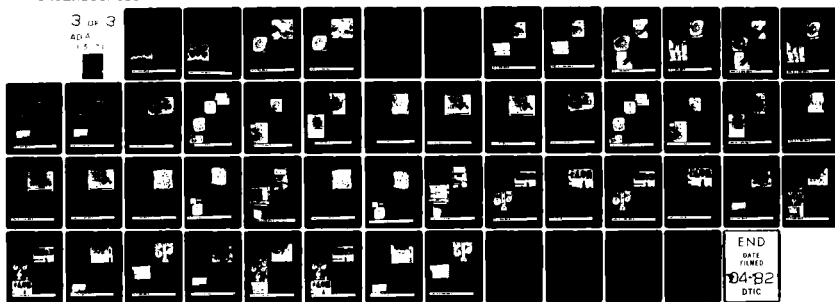
UNCLASSIFIED TAEG-TM-82-1

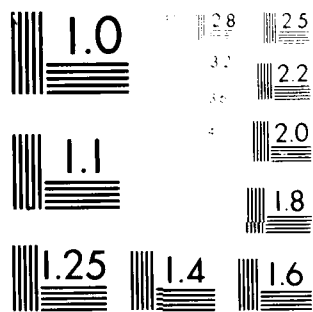
NL

3 OF 3

ADA

171



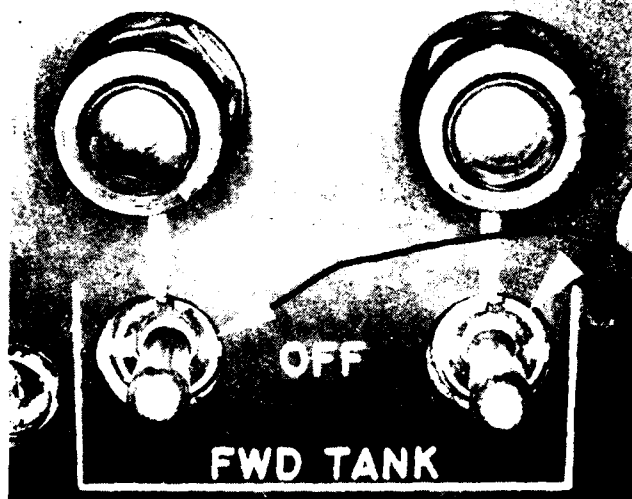


MICROCOPY RESOLUTION TEST CHART
 NATIONAL BUREAU OF STANDARDS-1963-A

NORMAL START CHECKLIST ITEM NO. 25. Boost Pumps OFF

Purpose:

To check for engine flameout due to possible air leak in a fuel line.



1. IF
Fuel filters have been changed just
before flight
THEN
Leave boost pumps on for about 1 minute
after start to purge air from fuel lines.

2. Action
Copilot turns FWD Tank Pump 1 and 2
switches OFF (down)

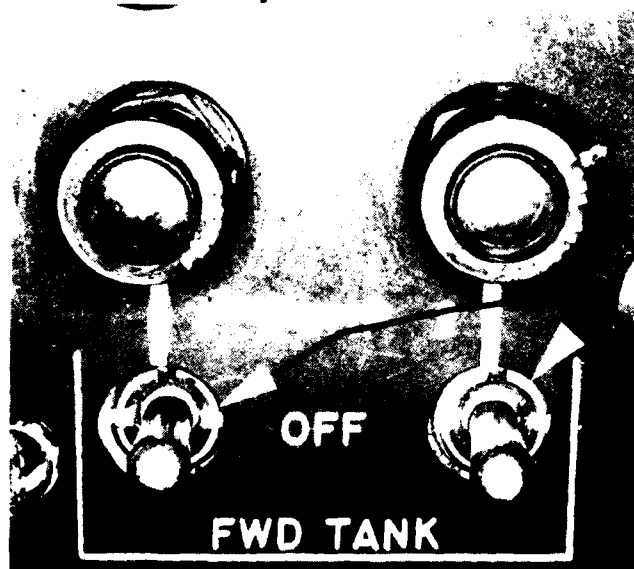
3. Voice Response
"OFF"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 25. Boost Pumps OFF

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. IF
Fuel filters have been _____ just
before flight
THEN
Leave boost pumps on for about _____ minute
after start to purge air from fuel lines.

2. Action
Copilot turns FWD Tank Pump 1 and 2
switches _____ (_____)

3. Voice Response

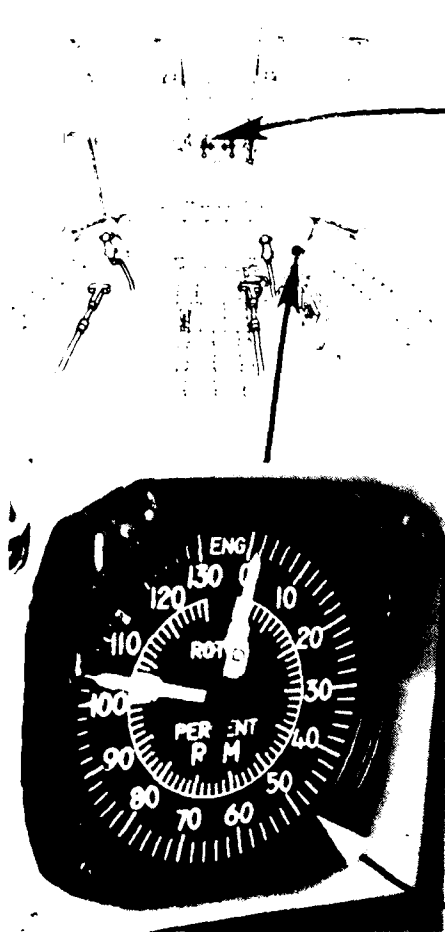
AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 26. Speed Selector 104 Nf

Purpose:

To bring the accessory section of the main gear box up to normal speed.



1. Action

Pilot pulls down on No. 1 speed selector and moves it forward; monitors Nf gage until 104 is reached

2. Result

Nf gage reads 104

3. Voice Response

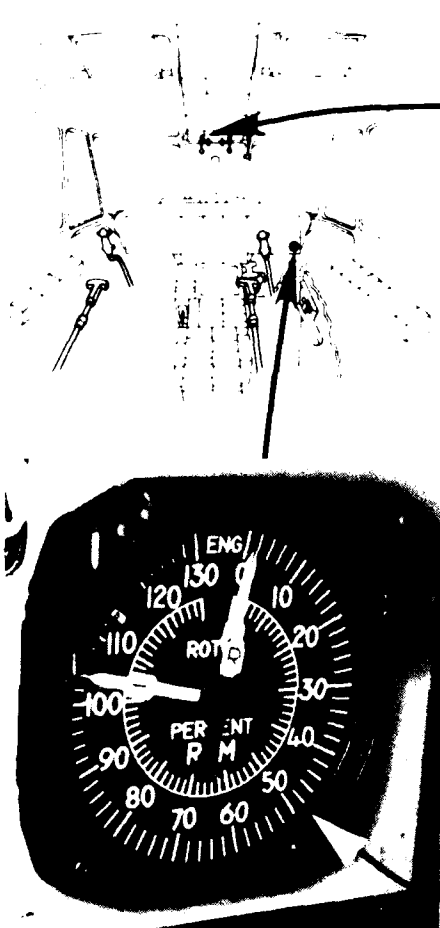
"104" Nf

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 26. Speed Selector 104⁰⁰ Nf

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER – NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Pilot pulls _____ on No. 1 speed selector and moves it forward; monitors Nf gage until _____ is reached

2. Result

Nf gage reads _____

3. Voice Response

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM NO. 23 through ITEM NO. 26

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST

State in your own words the Purpose

Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

State the VOICE RESPONSE at completion of the steps

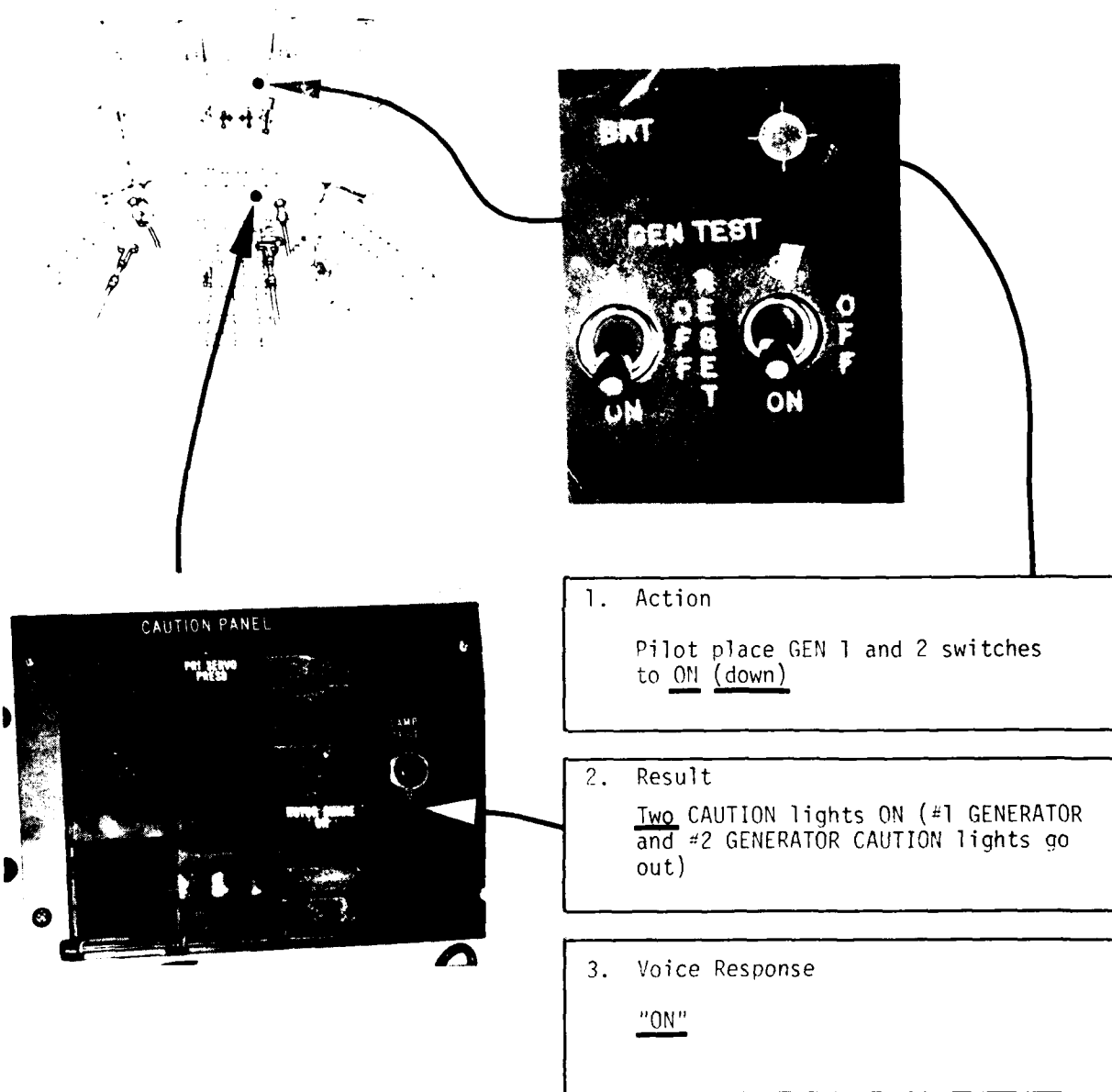
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NORMAL START CHECKLIST ITEM NO. 27. Generators ON

Purpose:

To connect the AC generators to the AC power system.

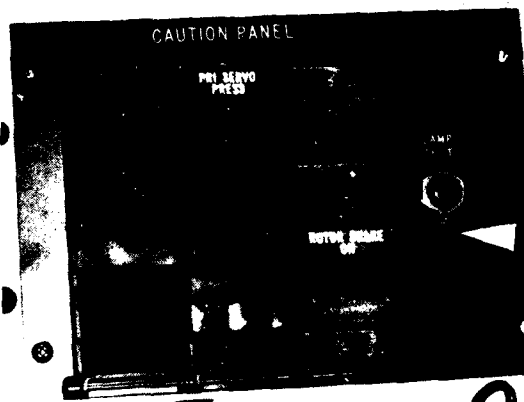
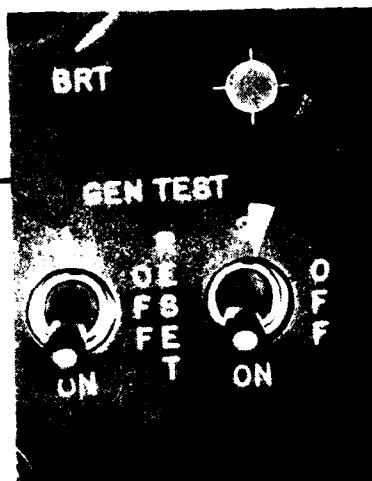


GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 27. Generators ON

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Pilot place GEN 1 and 2 switches to ()

2. Result

 CAUTION lights ON (#1 GENERATOR and #2 GENERATOR CAUTION lights go out)

3. Voice Response

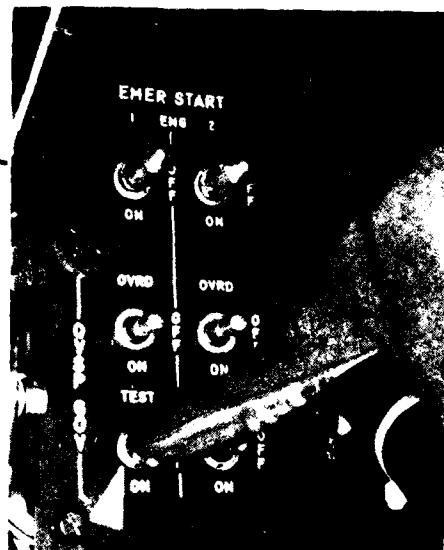
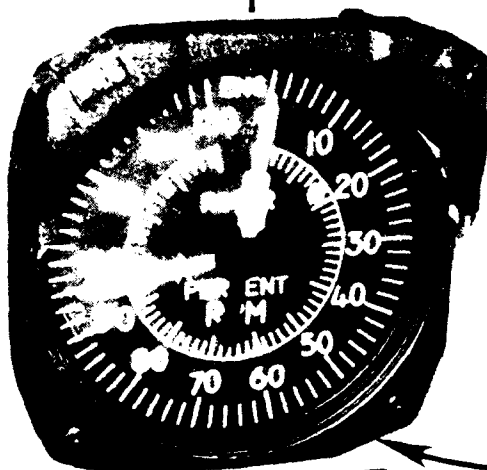
AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 28. No. 1 Overspeed System CHECK

Purpose:

To simulate an overspeed condition for checking the electrical overspeed system.



1. Action

Pilot place OVSP GOV TEST switch to ON (FWD)
Hold in this position

2. Result

Nf will drop to between 95 and 100

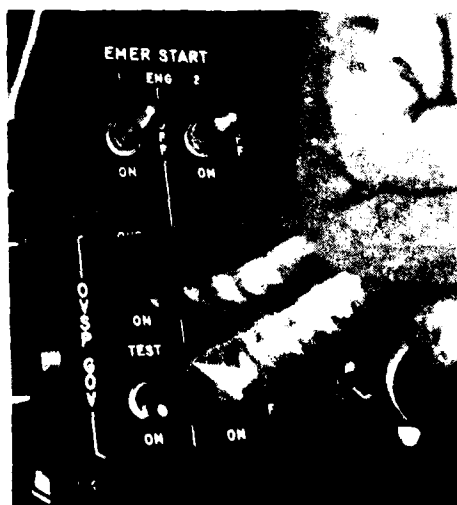
3. IF

Engines are RFI (Radio Frequency Interference) shielded
THEN

Nf will drop to between 88 and 99

4. Action

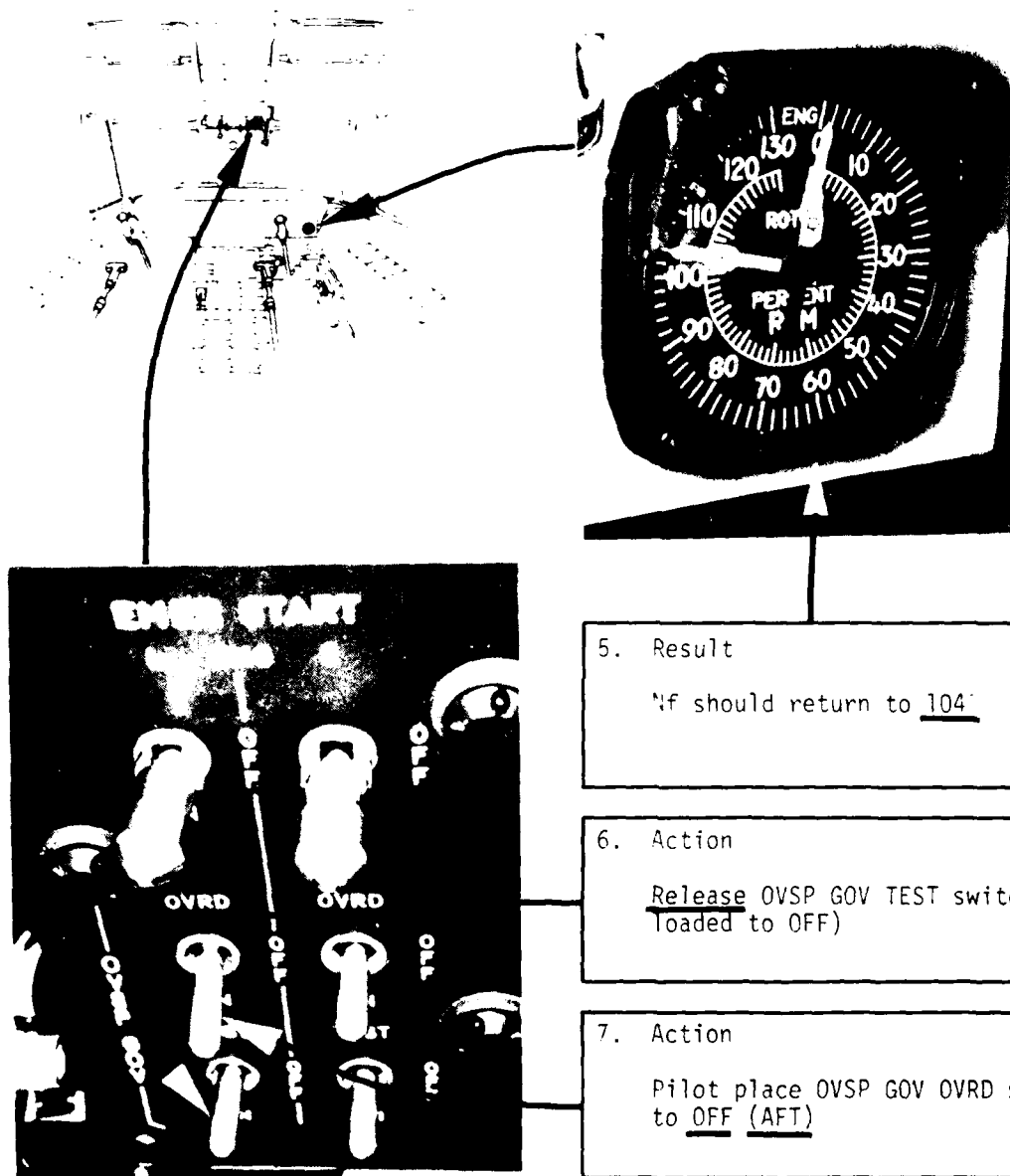
Pilot place OVSP GOV OVRD switch to ON (FWD)



GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 28. No. 1 Overspeed System CHECK

Purpose: To simulate an overspeed condition for checking the electrical overspeed system.



5. Result

Nf should return to 104

6. Action

Release OVSP GOV TEST switch (spring loaded to OFF)

7. Action

Pilot place OVSP GOV OVRD switch to OFF (AFT)

8. Voice Response

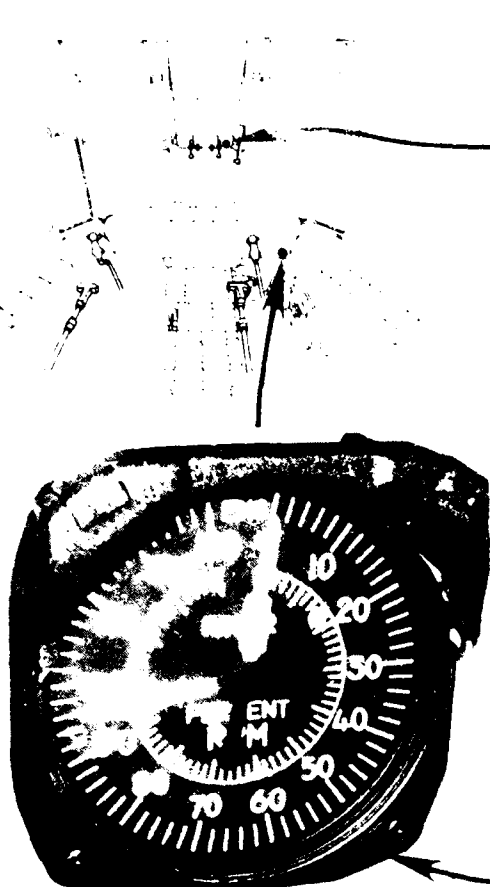
"CHECK"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 19. No. 1 Overspeed System CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER -- NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS

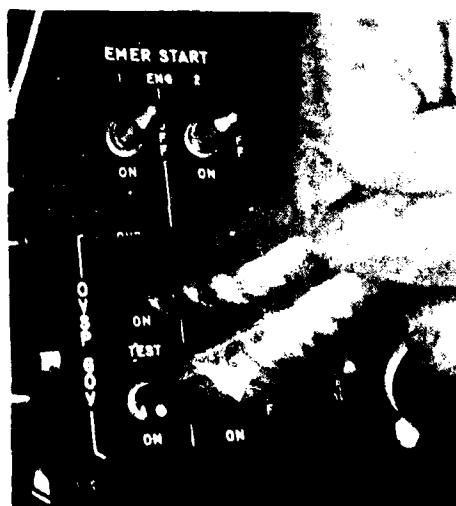


1. Action
Pilot place OVSP GOV TEST switch to
()
Hold in this position

2. Result
Nf will drop to between _ and _

3. IF
Engines are RFI (Radio Frequency
Interference) shielded
THEN
Nf will drop to between _ and _

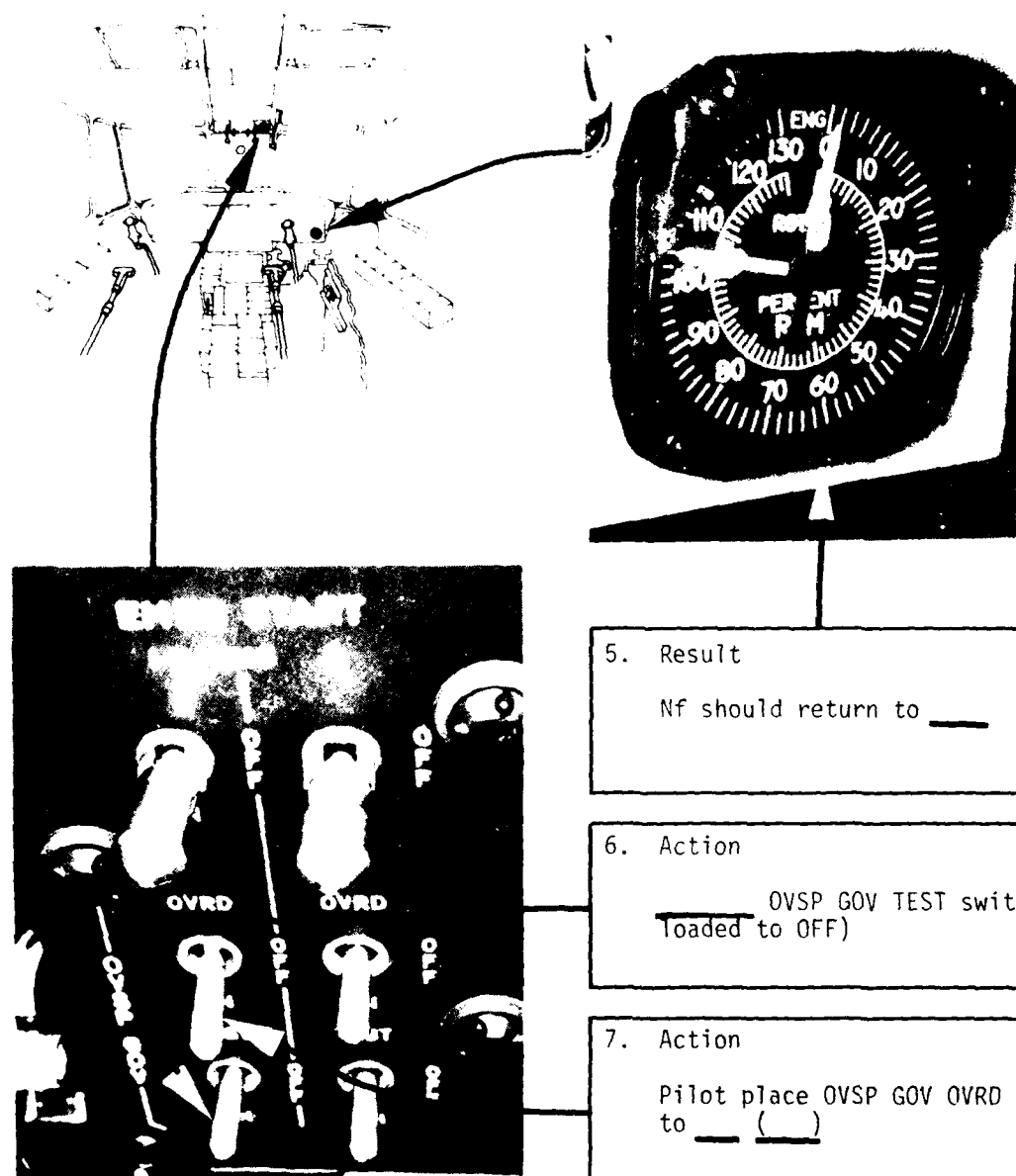
4. Action
Pilot place OVSP GOV OVRD switch to
()



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 28. No. 1 Overspeed System CHECK



5. Result

Nf should return to _____

6. Action

_____ OVSP GOV TEST switch (spring loaded to OFF)

7. Action

Pilot place OVSP GOV OVRD switch to _____ (_____)

8. Voice Response

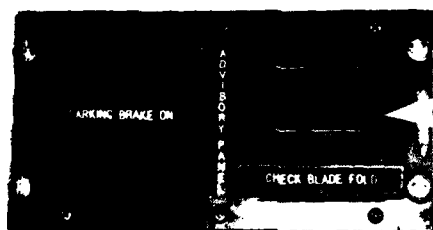
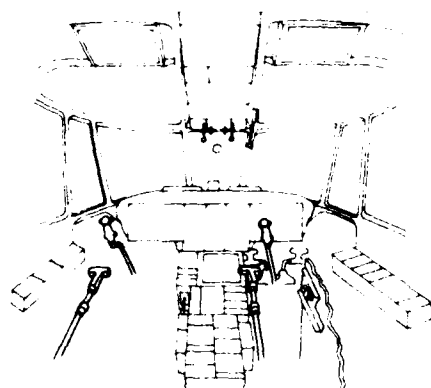
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 29. External Power DISCONNECTED

Purpose:

To disconnect external electrical power from the aircraft.



1. Action

Pilot gives Disconnect Electrical Power signal to Plane Captain

2. Result

Plane Captain gives Disconnect Electrical Power signal; Power crew disconnects AC power

3. Result

Two Advisory lights remain ON. (EXT PWR ON advisory light goes out when external power access door is closed)

4. Voice Response

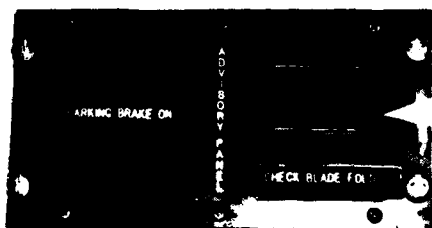
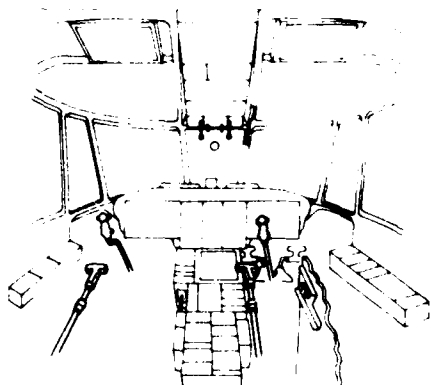
"DISCONNECTED"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 29. External Power DISCONNECTED

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



1. Action

Pilot gives _____
_____ signal to Plane Captain

2. Result

Plane Captain gives Disconnect
Electrical Power signal; Power
crew disconnects AC power

3. Result

_____ Advisory lights remain ON.
(EXT PWR ON light on advisory panel
goes out)

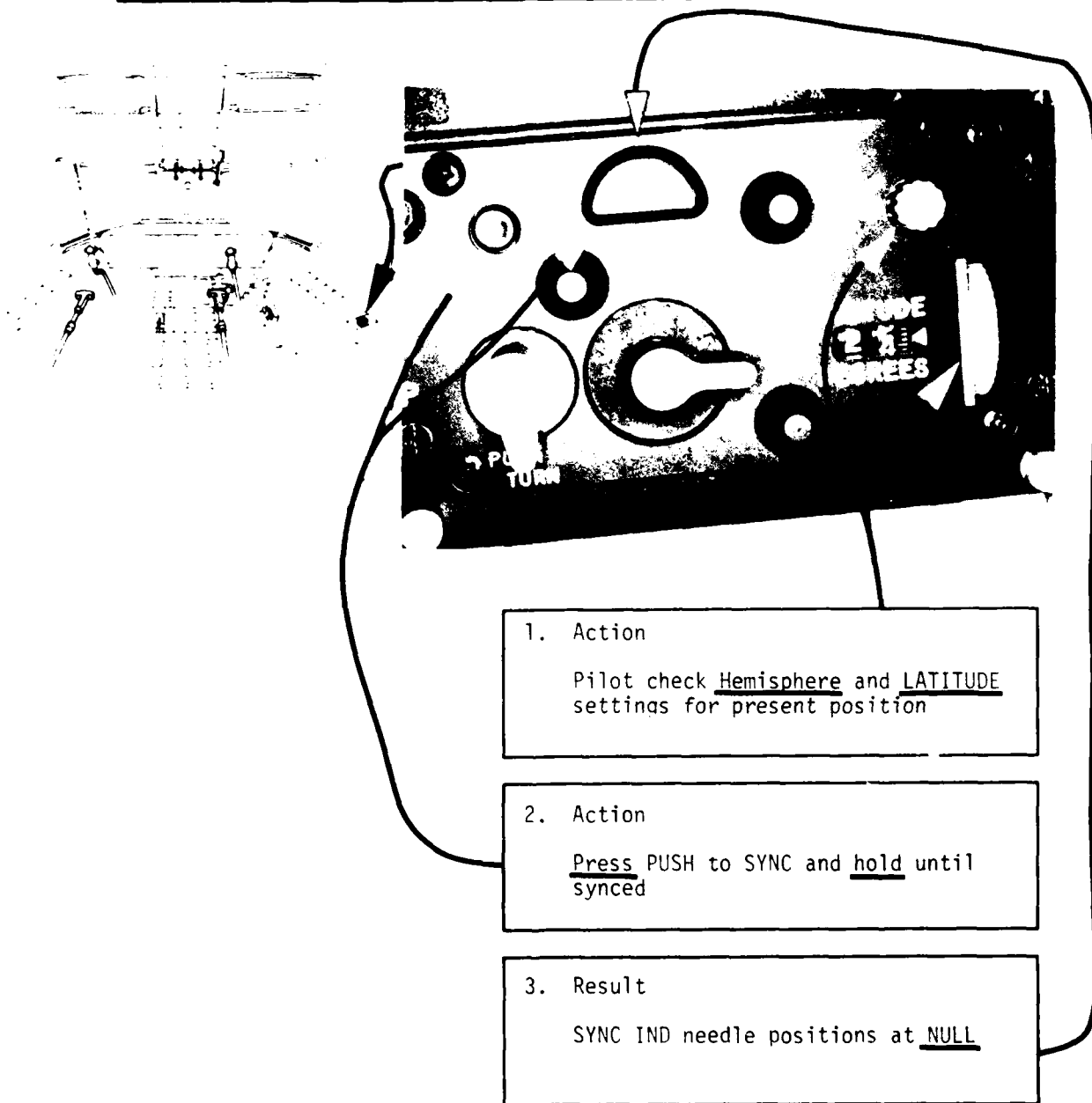
4. Voice Response

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

Purpose: To slave and align the compass system, and to set navigation and communication panels as required.

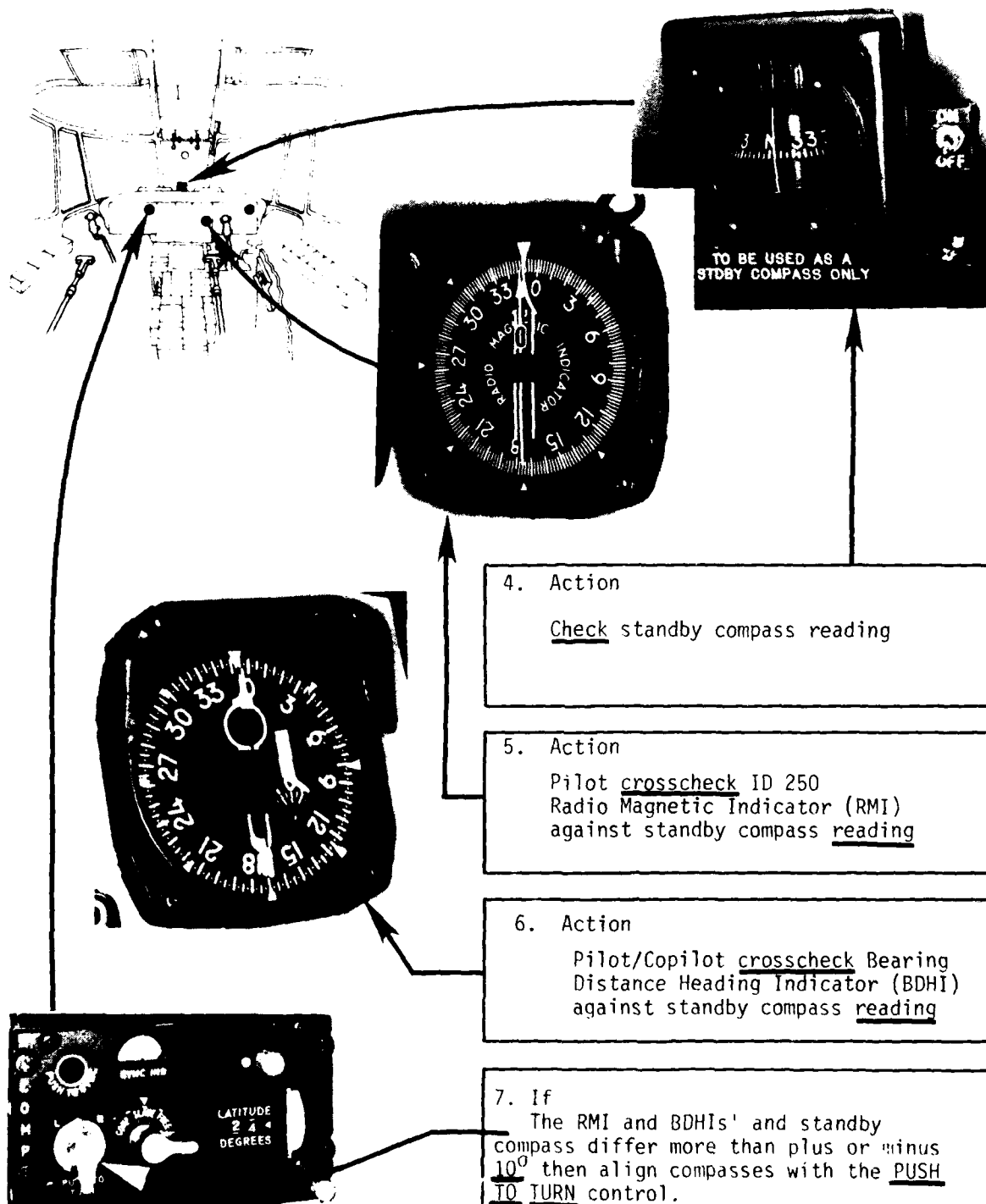


GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

Purpose:

To slave and align the compass system, and to set navigation and communication panels as required.



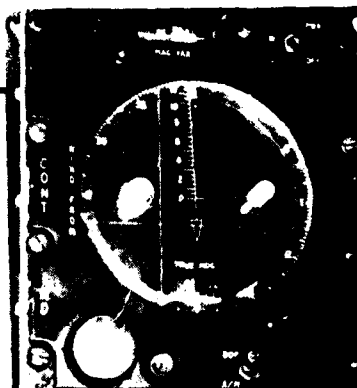
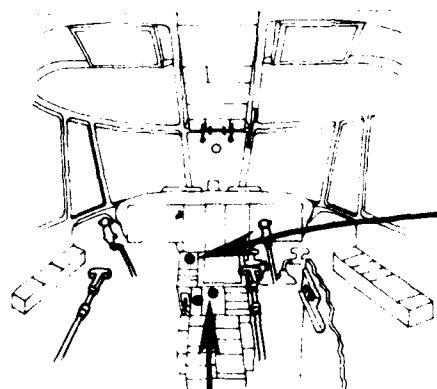
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
 RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

Purpose:

To slave and align the compass system, and to set navigation and communication panels as required.



8. Action

Place Control Indicator switch to PWR (up) position if required

9. Action

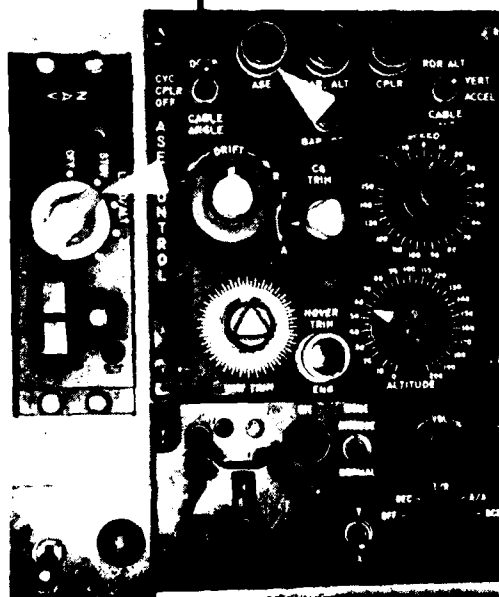
Place NAV Doppler Control switch to STBY

10. Action

Check ASE off (all lights out). If ASE is on depress AUTO STAB REL button on either cyclic

11. Action

Set TACAN to REC and channel as desired

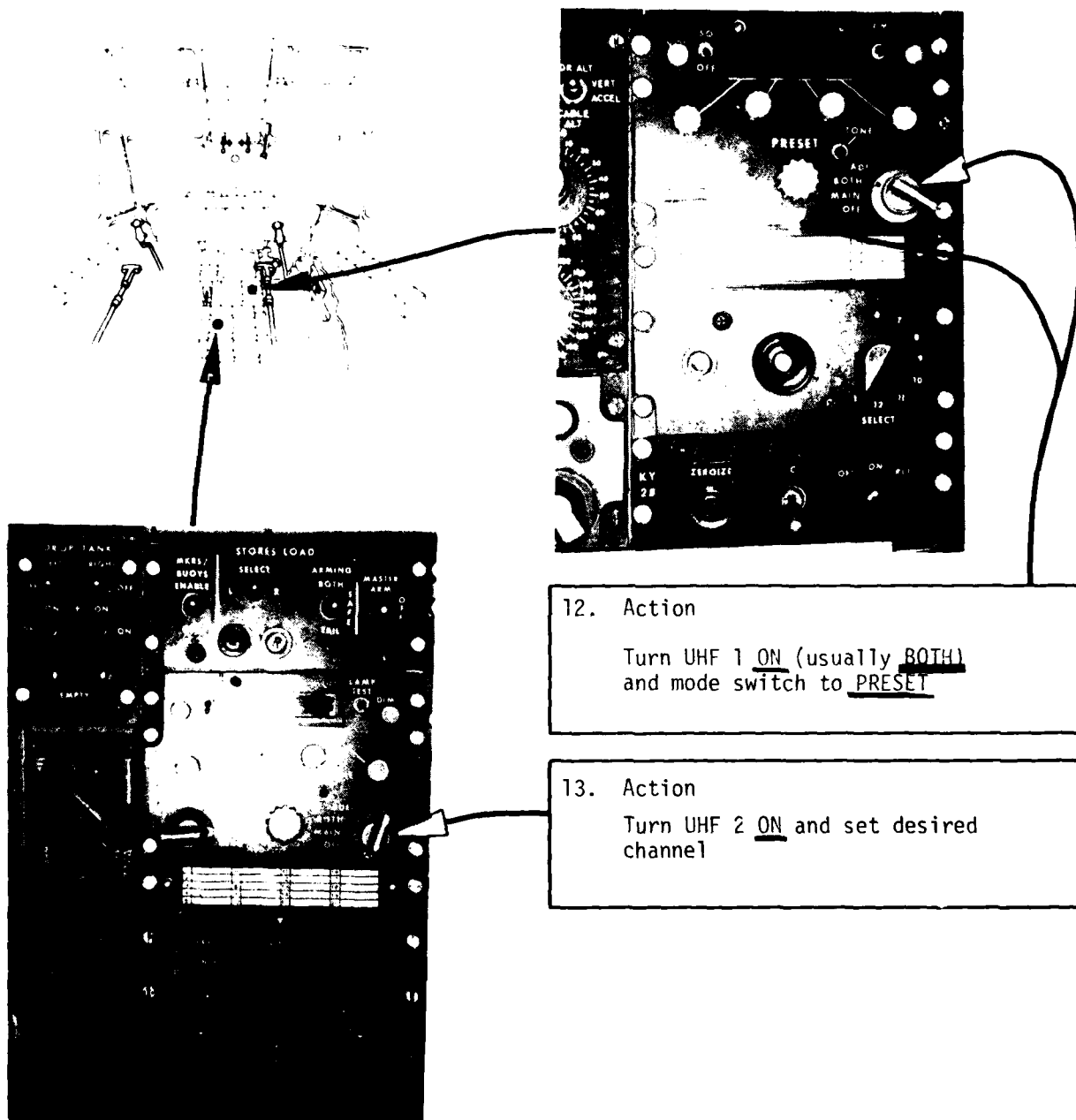


GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

Purpose: To slave and align the compass system, and to set navigation and communication panels as required.



12. Action

Turn UHF 1 ON (usually BOTH) and mode switch to PRESET

13. Action

Turn UHF 2 ON and set desired channel

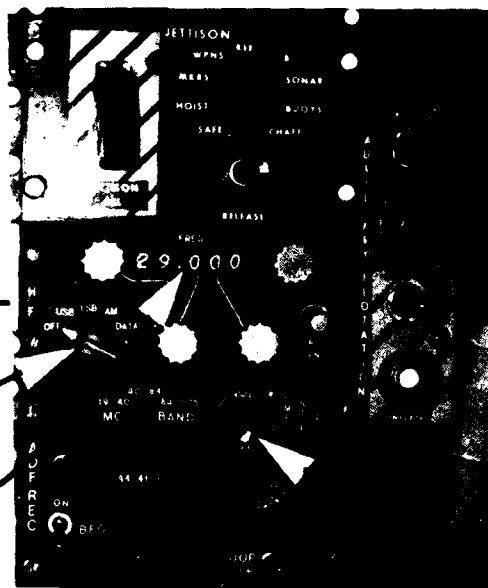
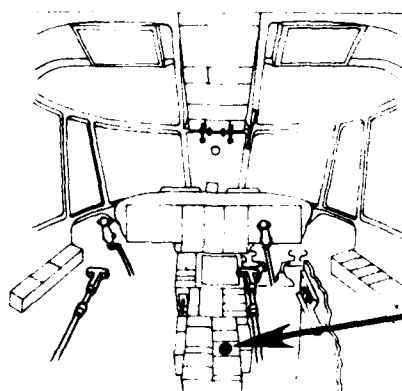
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

Purpose:

To slave and align the compass system, and to set navigation and communication panels as required.



14. Action

Set HF OFF; verify frequency set at 29.000.

15. Action

Set LF (ADF) to ON and set desired frequency.

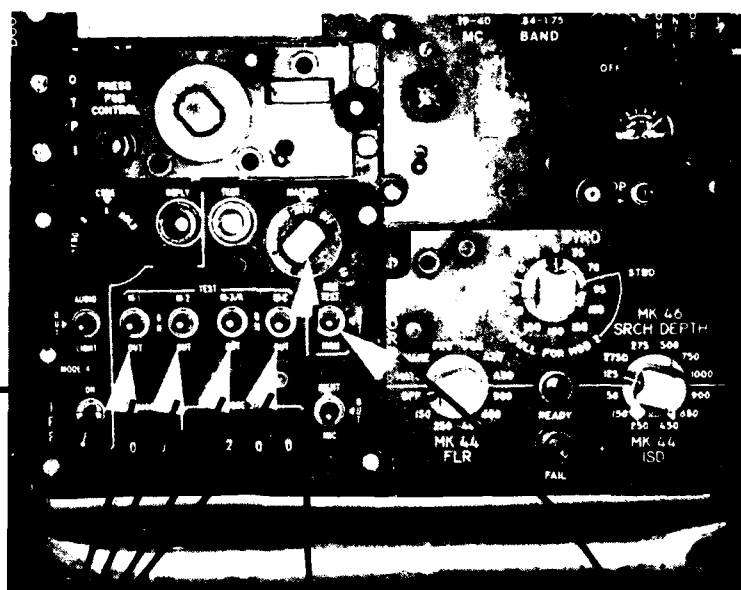
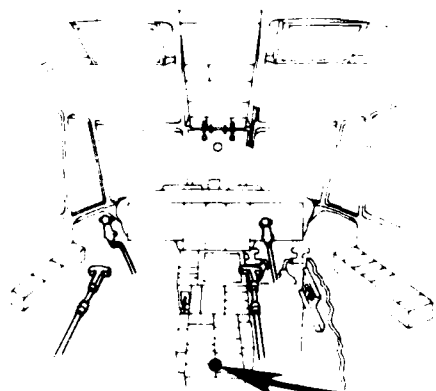
GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

Purpose:

To slave and align the compass system, and to set navigation and communication panels as required.



16. Action

Set MASTER switch to STBY

17. Action

Set MODE switches (M-1, M-2, M-3/A and M-C) to ON (center)

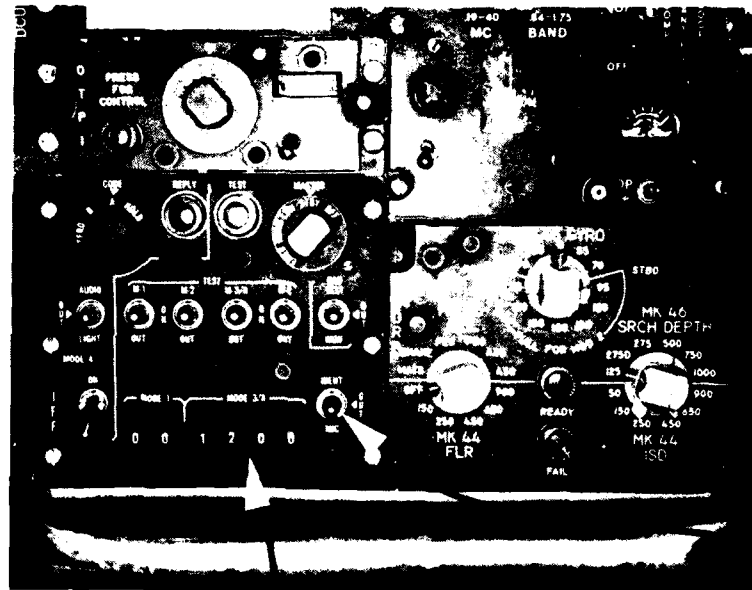
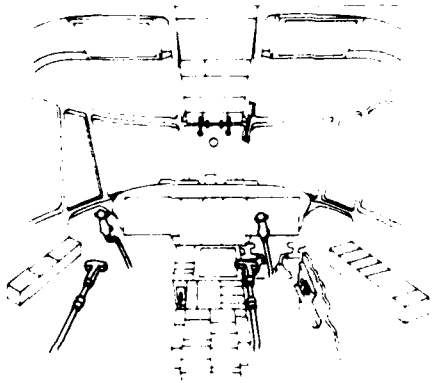
18. Action

Set RAD TEST-OUT-MON switch as desired, usually MON (down)

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

Purpose: To slave and align the compass system, and to set navigation and communication panels as required.



19. Action
Set MODE 3/A code selector thumbwheels to 1200

20. Action
Set IDENT-OUT-MIC switch to OUT
(center)

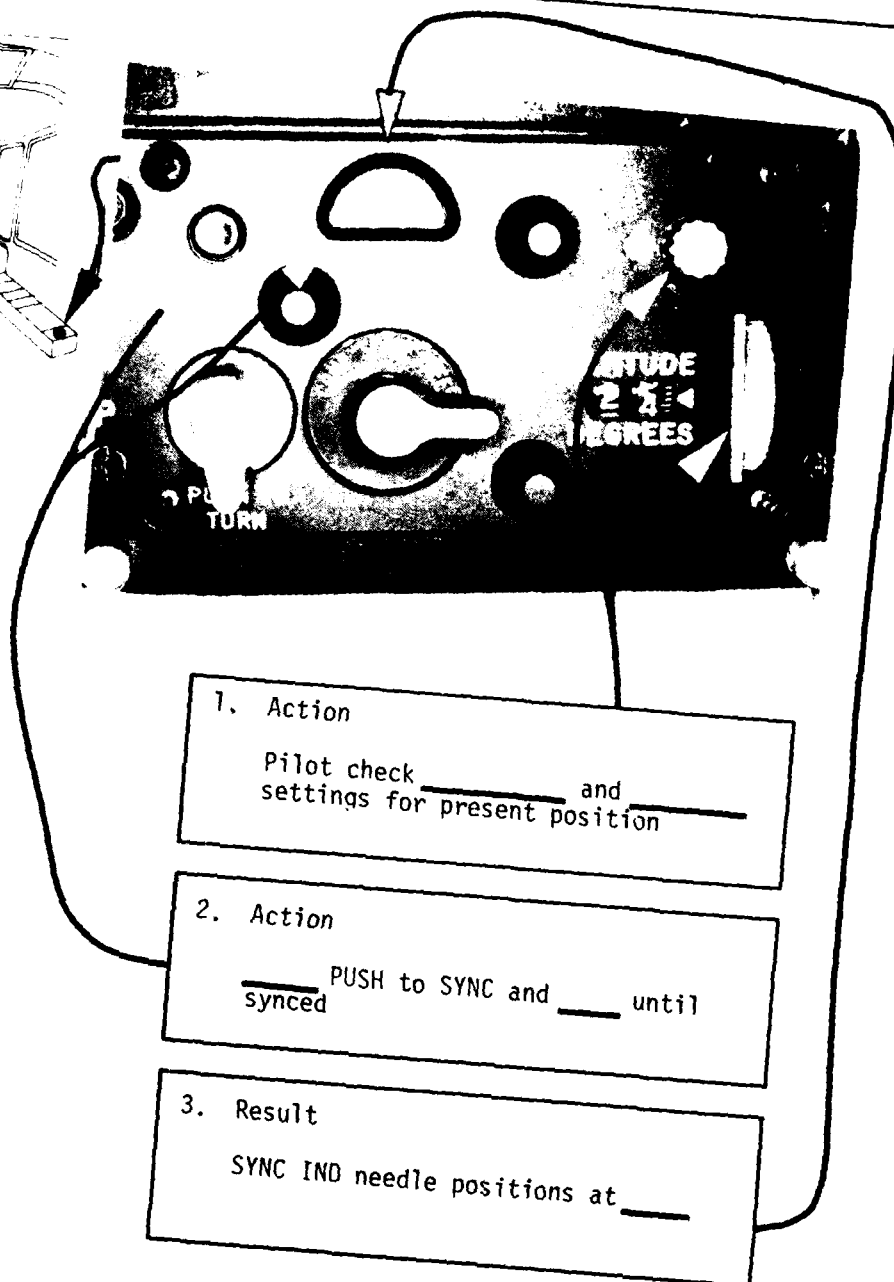
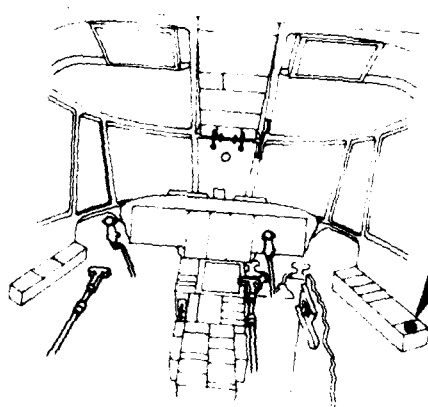
21. Voice Response
"AS REQUIRED"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

EXERCISE

- FILL IN THE BLANKS
- REFER BACK TO CHECK YOUR ANSWERS
- WRITE ON SCRATCH PAPER - NOT THE BOOK



1. Action

Pilot check _____ and _____
settings for present position

2. Action

_____ PUSH to SYNC and _____ until
synced

3. Result

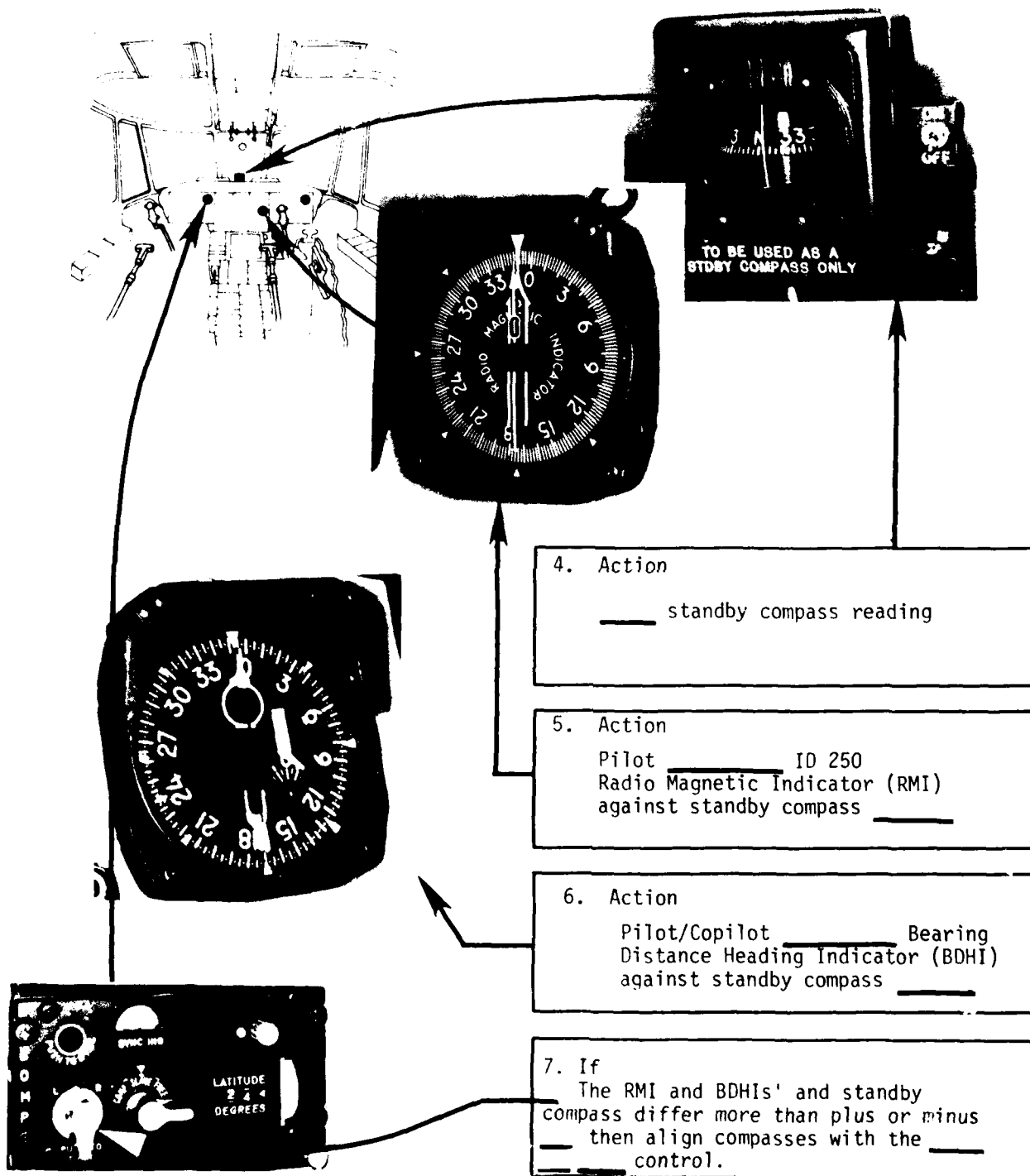
SYNC IND needle positions at _____

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

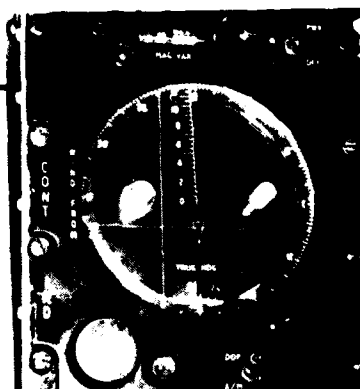
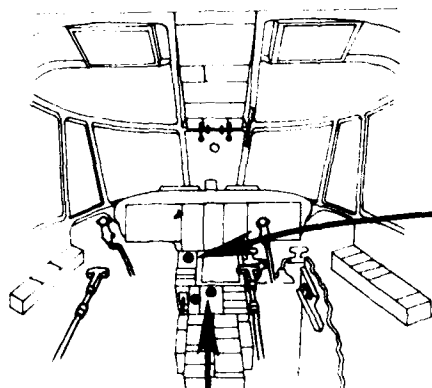
Purpose:



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
 RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED



8. Action

Place Control Indicator switch to position if required

9. Action

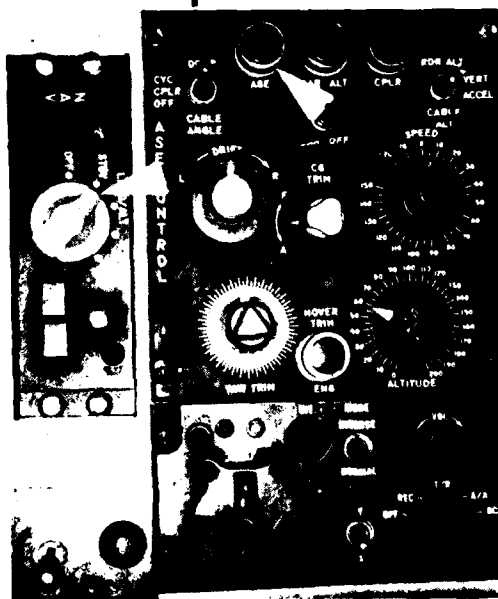
Place NAV Doppler Control switch to

10. Action

Check ASE off (all lights out). If ASE is on depress button on either cyclic

11. Action

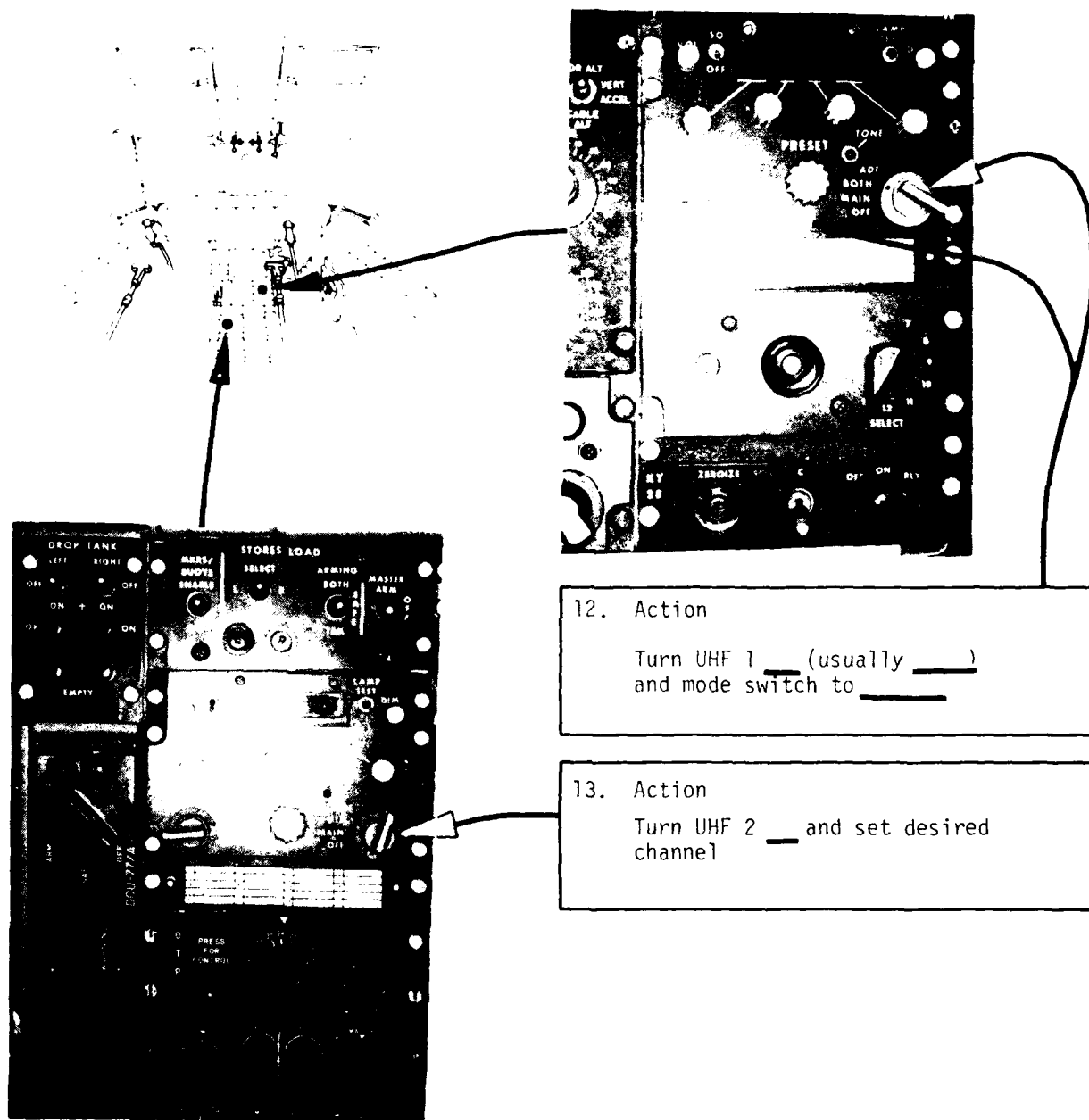
Set TACAN to and channel as desired



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

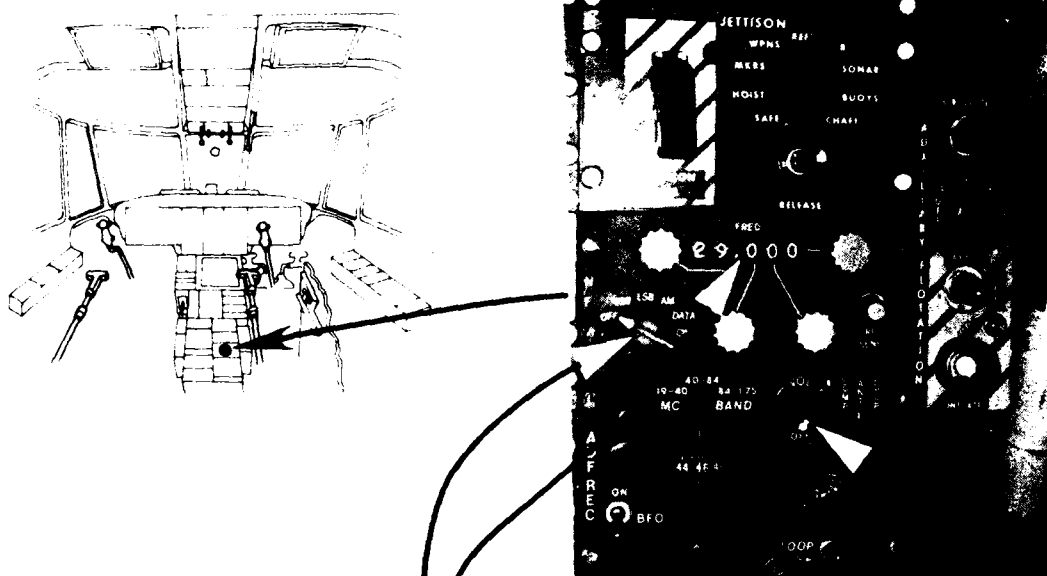


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED

Purpose:



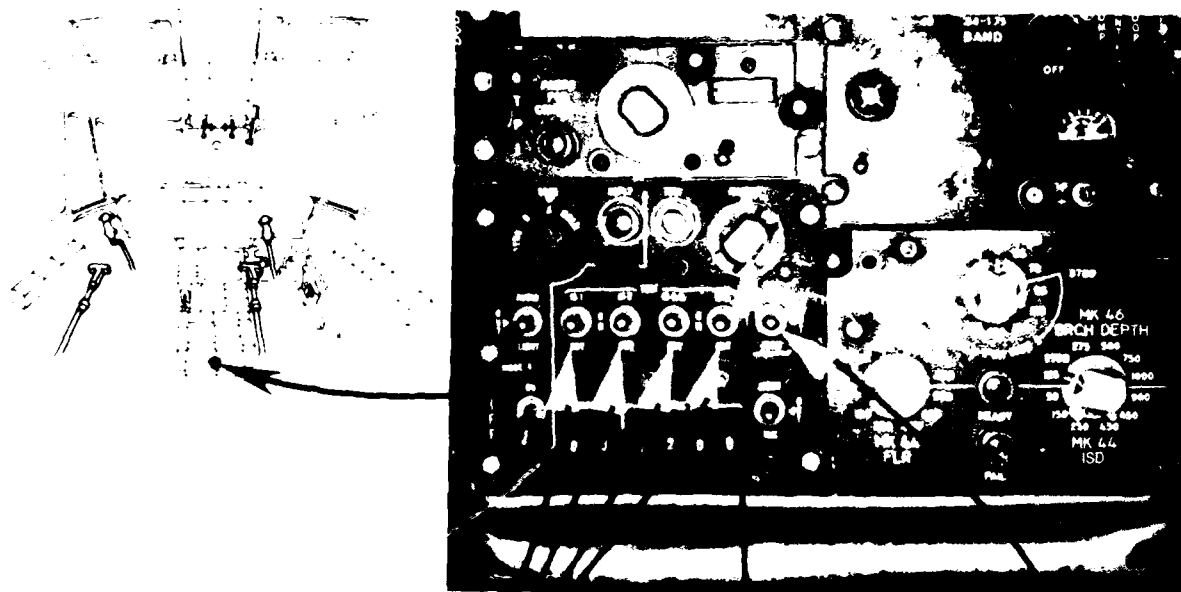
14. Action
Set HF ____ verify frequency set
at ____

15. Action
Set LF (ADF) to ____ and set desired
frequency.

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED



16. Action

Set MASTER switch to

17. Action

Set MODE switches (M-1, M-2, M-3/A and M-C) to

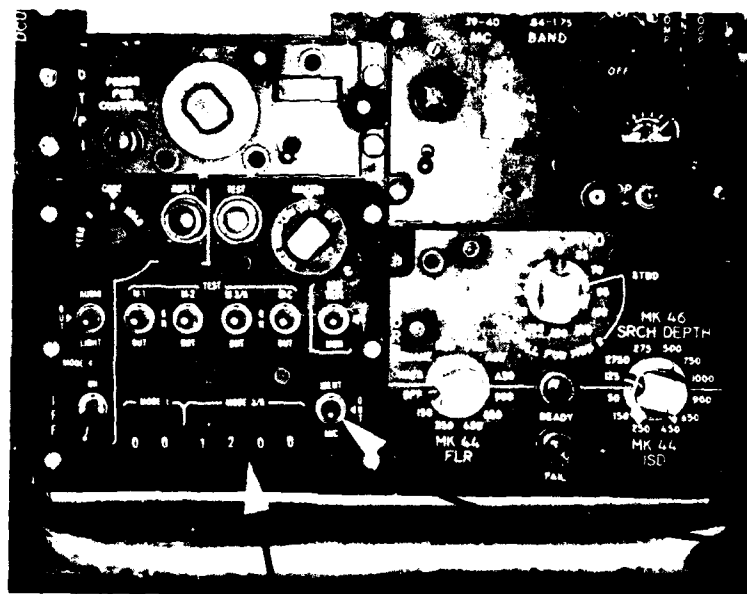
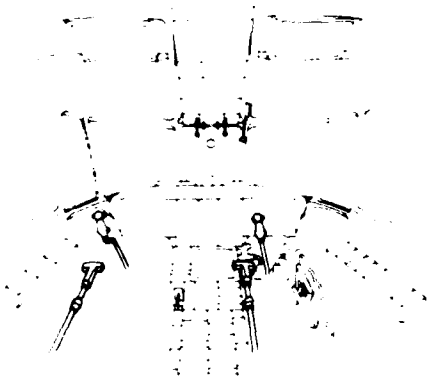
18. Action

Set RAD TEST-OUT-MON switch as desired, usually

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 30. Compass System, Console Switches ... AS REQUIRED



19. Action

Set MODE 3/A code selector thumb wheels to ____

20. Action

Set IDENT-OUT-MIC switch to ____
(____)

21. Voice Response

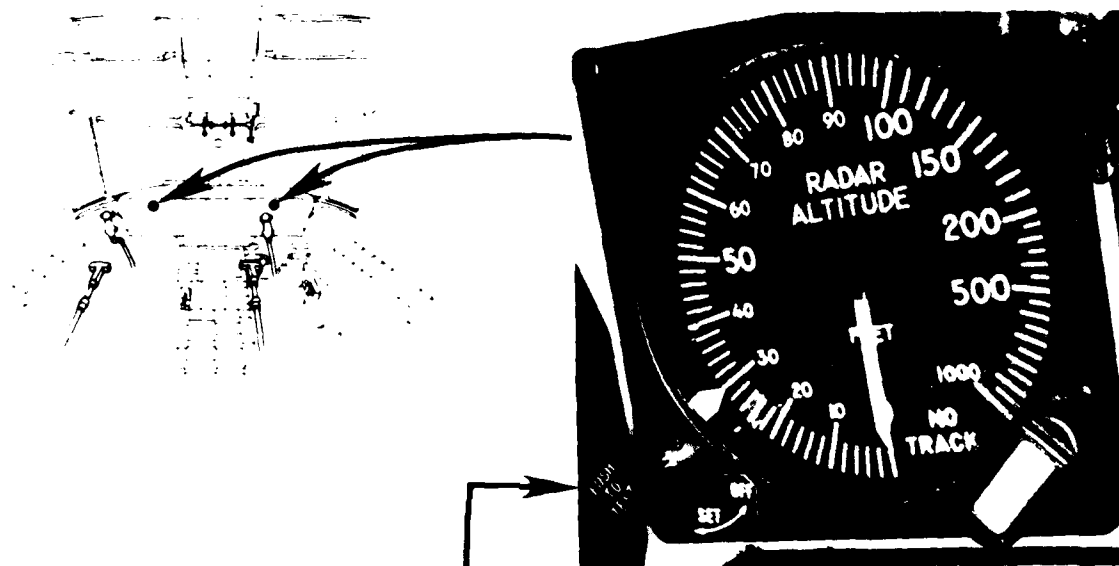
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 31. RAD ALT, BAR ALT, RAWs SET AND TEST

Purpose:

To set and test the Radar Altimeters, Barometric Altimeters, and the Radar Altimeter Warning System.



1. Action

Both Pilot and Copilot rotate control knobs clockwise from OFF to turn system ON

2. Action

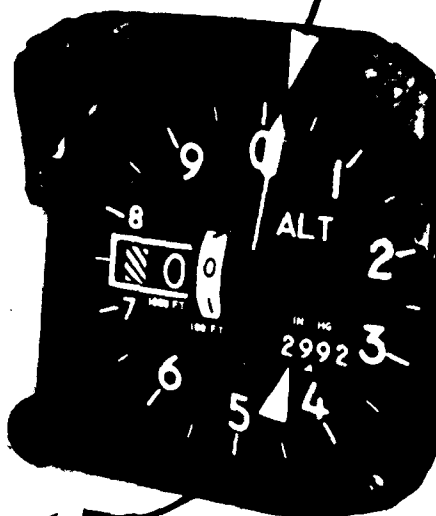
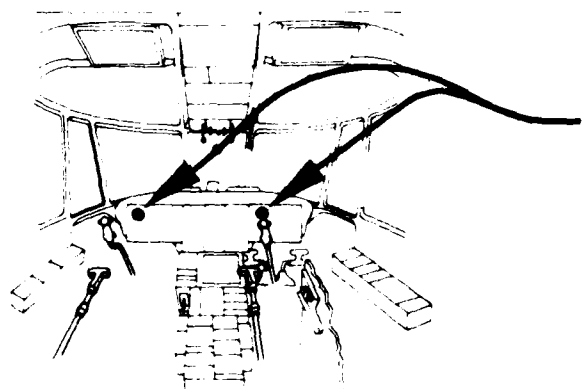
Both Pilot and Copilot continue to rotate control knobs clockwise to set low altitude warning index (usually to 30 feet)

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 31. RAD ALT, BAR ALT, RAWS SET AND TEST

Purpose:

To set and test the Radar Altimeters, Barometric Altimeters, and the Radar Altimeter Warning System.



3. Action

Pilot/Copilot set Barometric Pressure to current pressure reading

4. Action

Pilot/Copilot crosscheck altimeter reading to known field elevation

5. IF

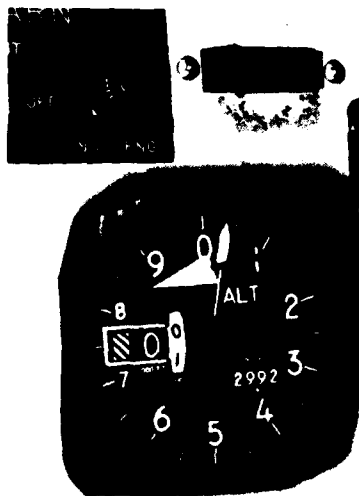
Either altimeter is more than ± 75 feet in error

THEN

Altimeter is not acceptable for IFR flight

6. Action

Pilot verify CODE OFF flag on Pilot's barometric altimeter is not displayed

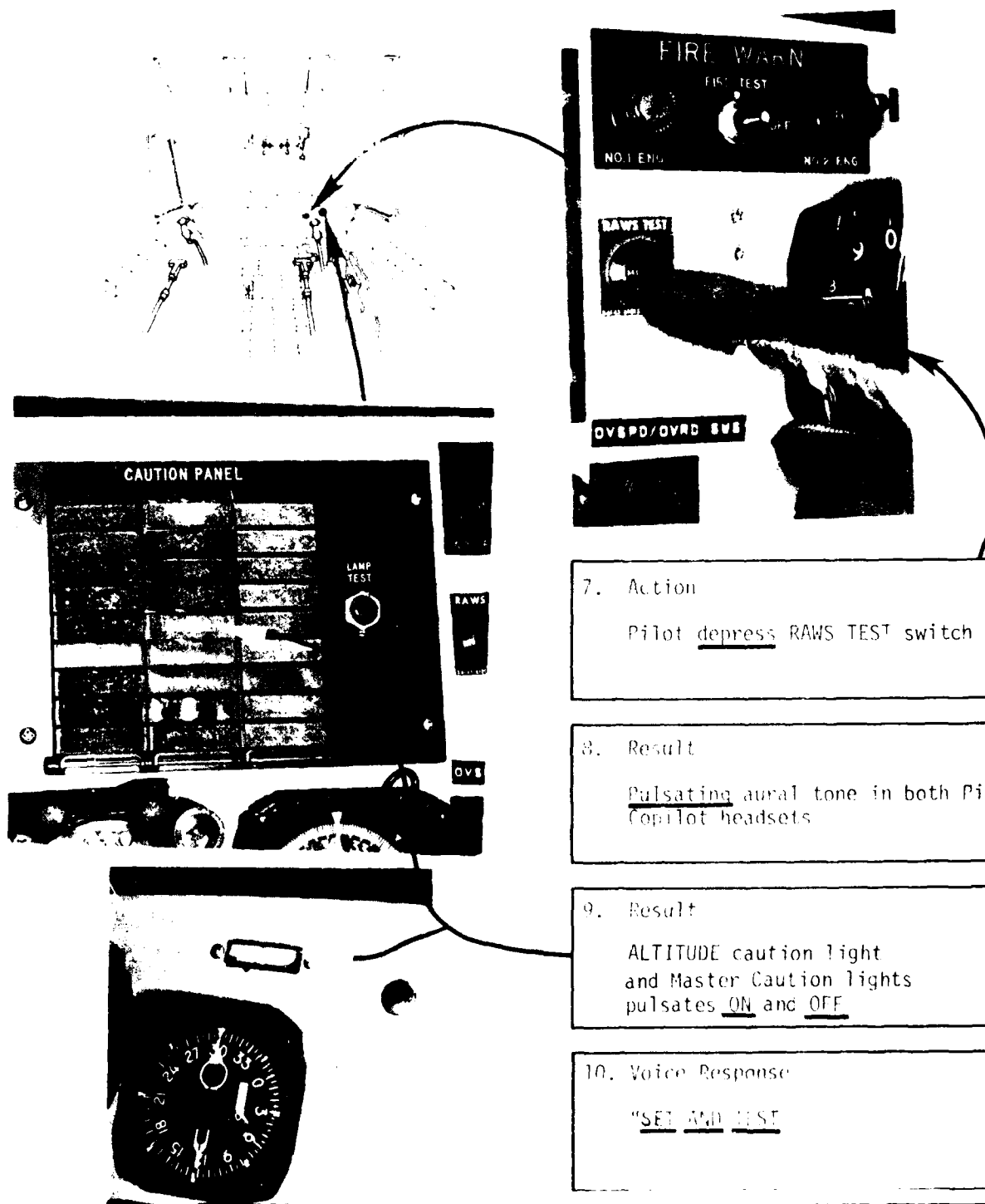


GO TO PAPER MOCK-UP : STEP THROUGH ITEM : TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 31. RAD ALT, BAR ALT, RAWS SET AND TEST

Purpose:

to set and test the Radar Altimeter, Barometric Altimeters, and the Altitude Warning System.



7. Action

Pilot depress RAWs TEST switch

8. Result

Pulsating aural tone in both Pilot/Copilot headsets

9. Result

ALTITUDE caution light and Master Caution lights pulsates ON and OFF

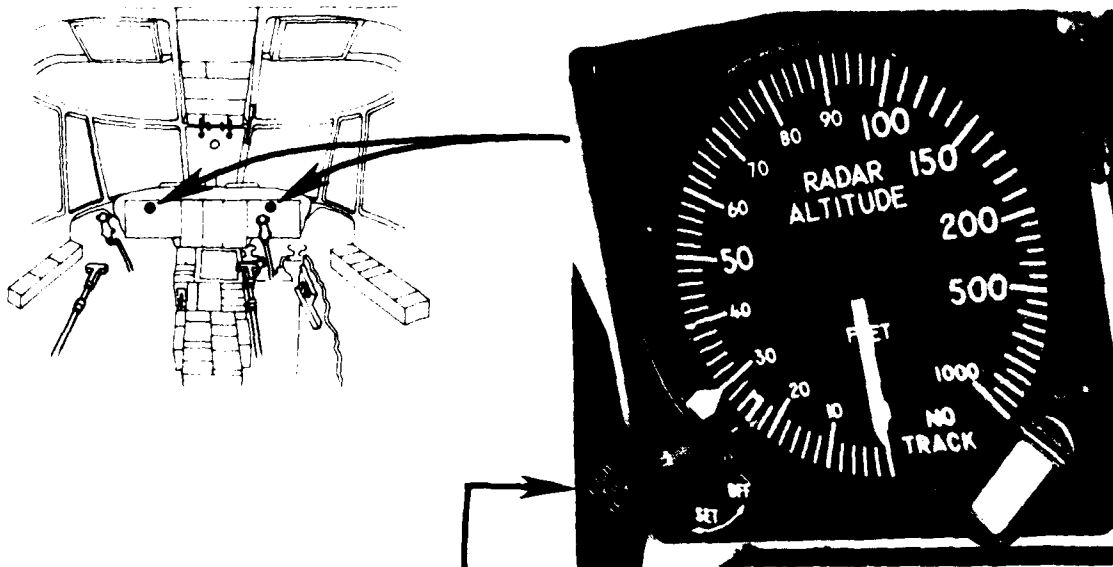
10. Voice Response

"SET AND TEST"

GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 31. RAD ALT, BAR ALT, RAWs SET AND TEST



1. Action

Both Pilot and Copilot rotate control knobs _____ from OFF to turn system _____

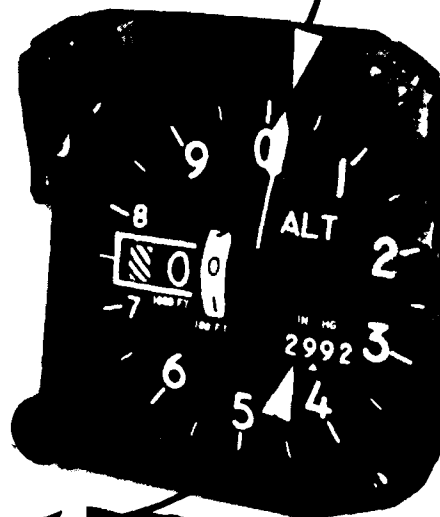
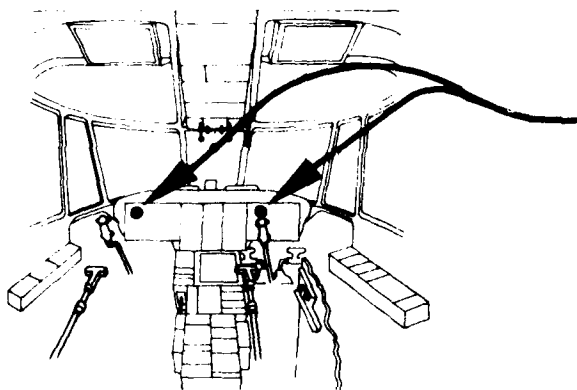
2. Action

Both Pilot and Copilot continue to rotate control knobs _____ to set low altitude warning (usually to _____ feet) _____

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 31. RAD ALT, BAR ALT, RAWs SET AND TEST



3. Action

Pilot/Copilot _____ Barometric Pressure
to _____ pressure reading

4. Action

Pilot/Copilot _____ altimeter
reading to known field elevation

5. IF

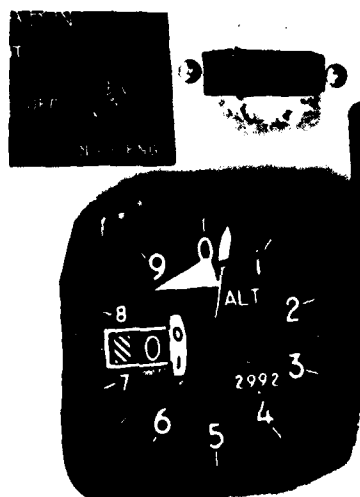
Either altimeter is more than \pm _____
feet in error

THEN

Altimeter is not acceptable for _____
flight

6. Action

Pilot verify _____ flag on
Pilot's barometric altimeter _____
displayed

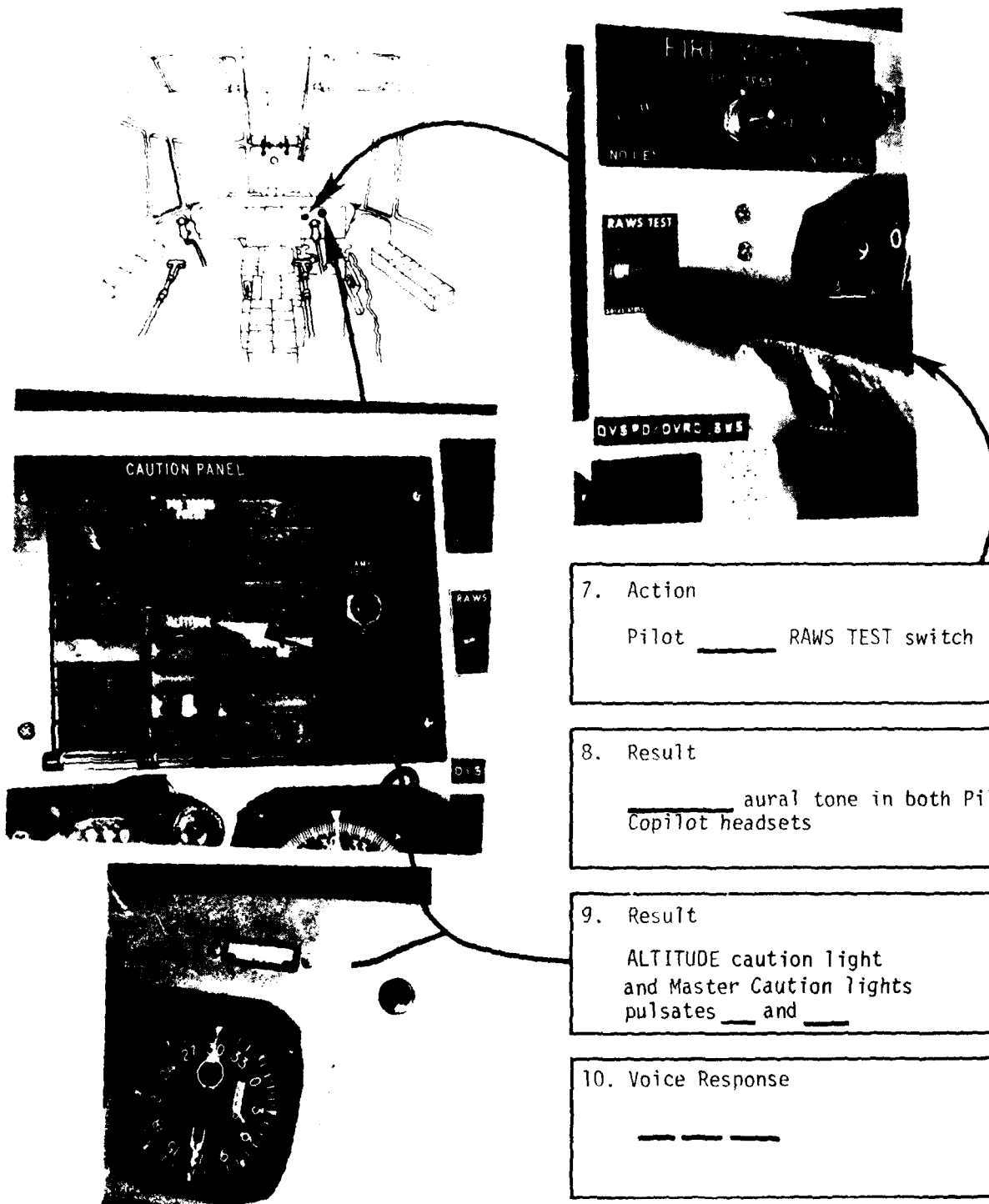


AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 31. RAD ALT, BAR ALT, RAWS SET AND TEST

Purpose:



7. Action

Pilot _____ RAWS TEST switch

8. Result

_____ aural tone in both Pilot/Copilot headsets

9. Result

ALTITUDE caution light and Master Caution lights pulsates ___ and ___

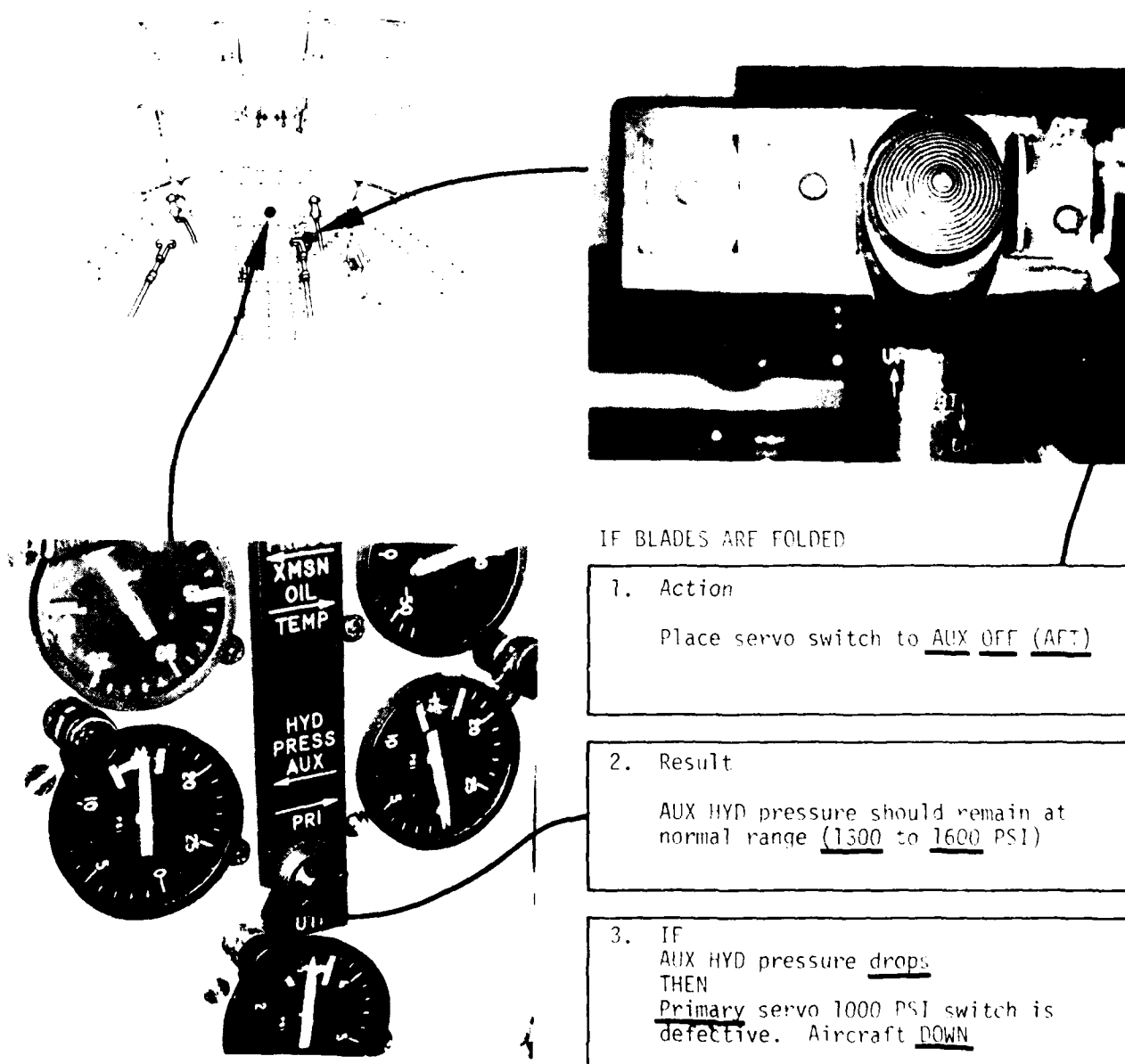
10. Voice Response

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK

Purpose: To insure proper operation of the primary servo 1000 PSI switch which prevents securing the AUX if PRI pressure is less than 1000 PSI.

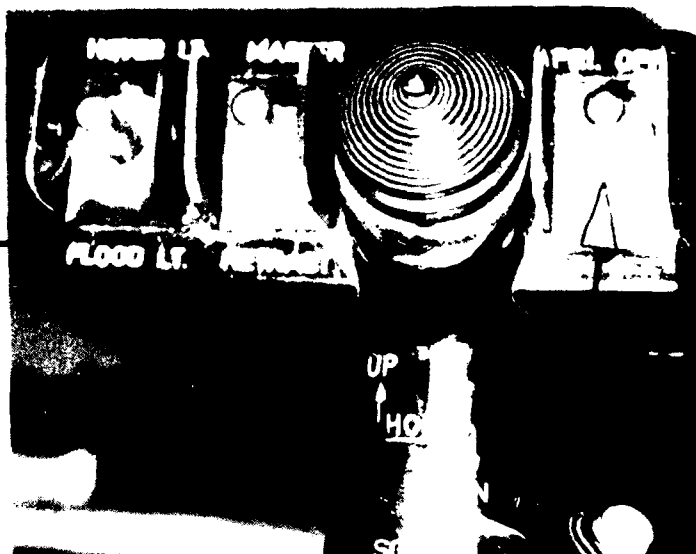
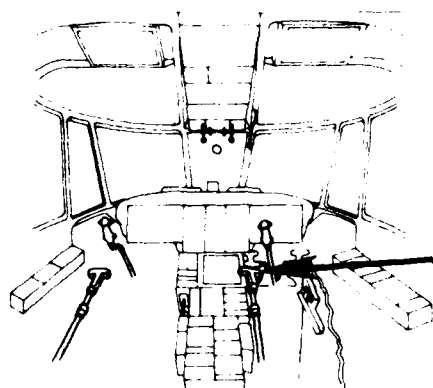


GO TO PAPER MOCK-UP • STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK

Purpose:

To insure proper operation of the primary servo 1000 PSI switch which prevents securing the AUX if PRI pressure is less than 1000 PSI.



IF BLADES ARE FOLDED

4. Action

Place servo switch to center position

5. Voice Response

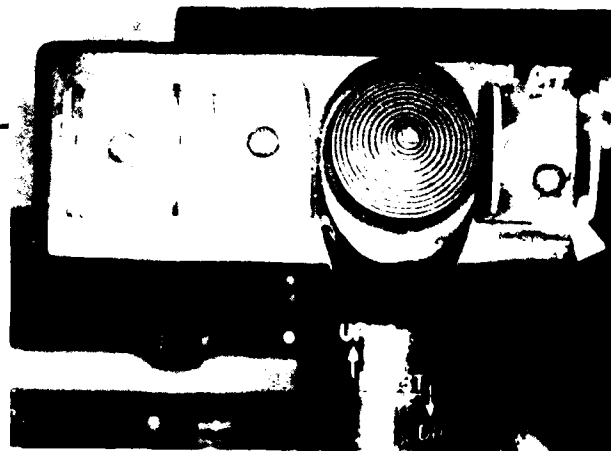
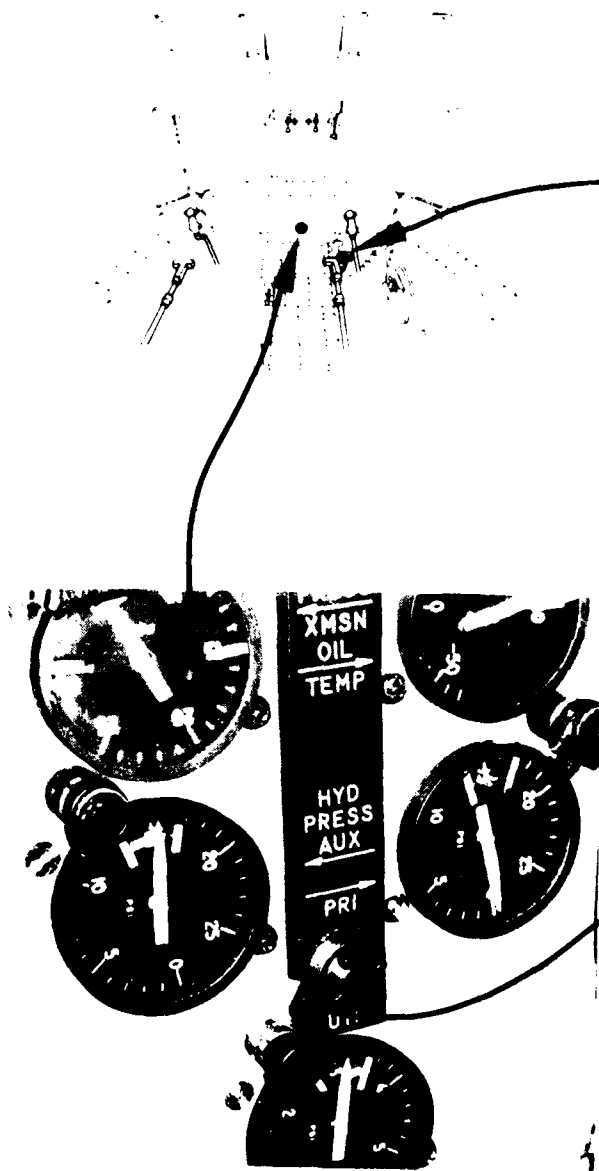
"CHECK"

GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



IF BLADES ARE FOLDED

1. Action

Place servo switch to ____ ()

2. Result

AUX HYD pressure should remain at normal range (____ to ____ PSI)

3. IF

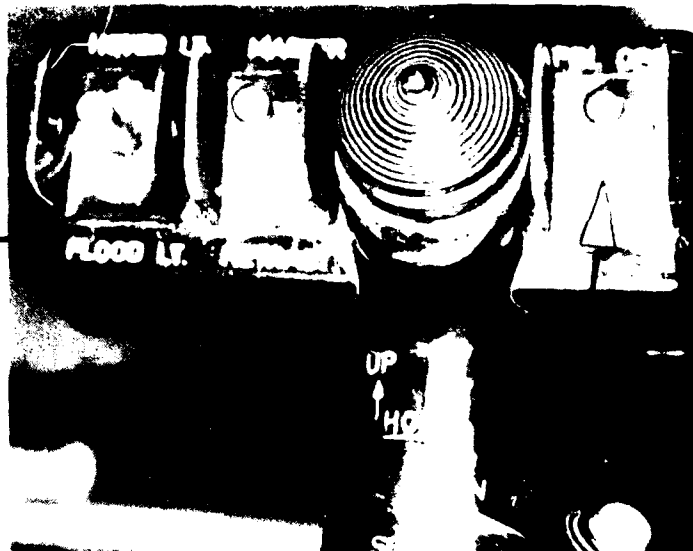
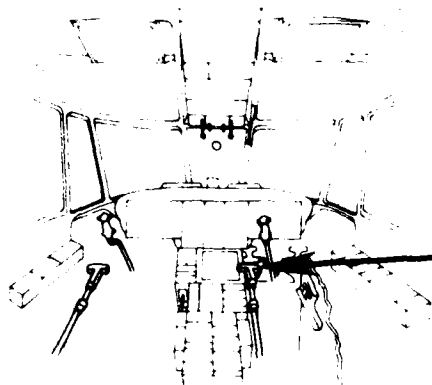
AUX HYD pressure ____
THEN

____ servo 1000 PSI switch is defective. Aircraft ____

AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK



IF BLADES ARE FOLDED

4. Action

Place servo switch to _____

5. Voice Response

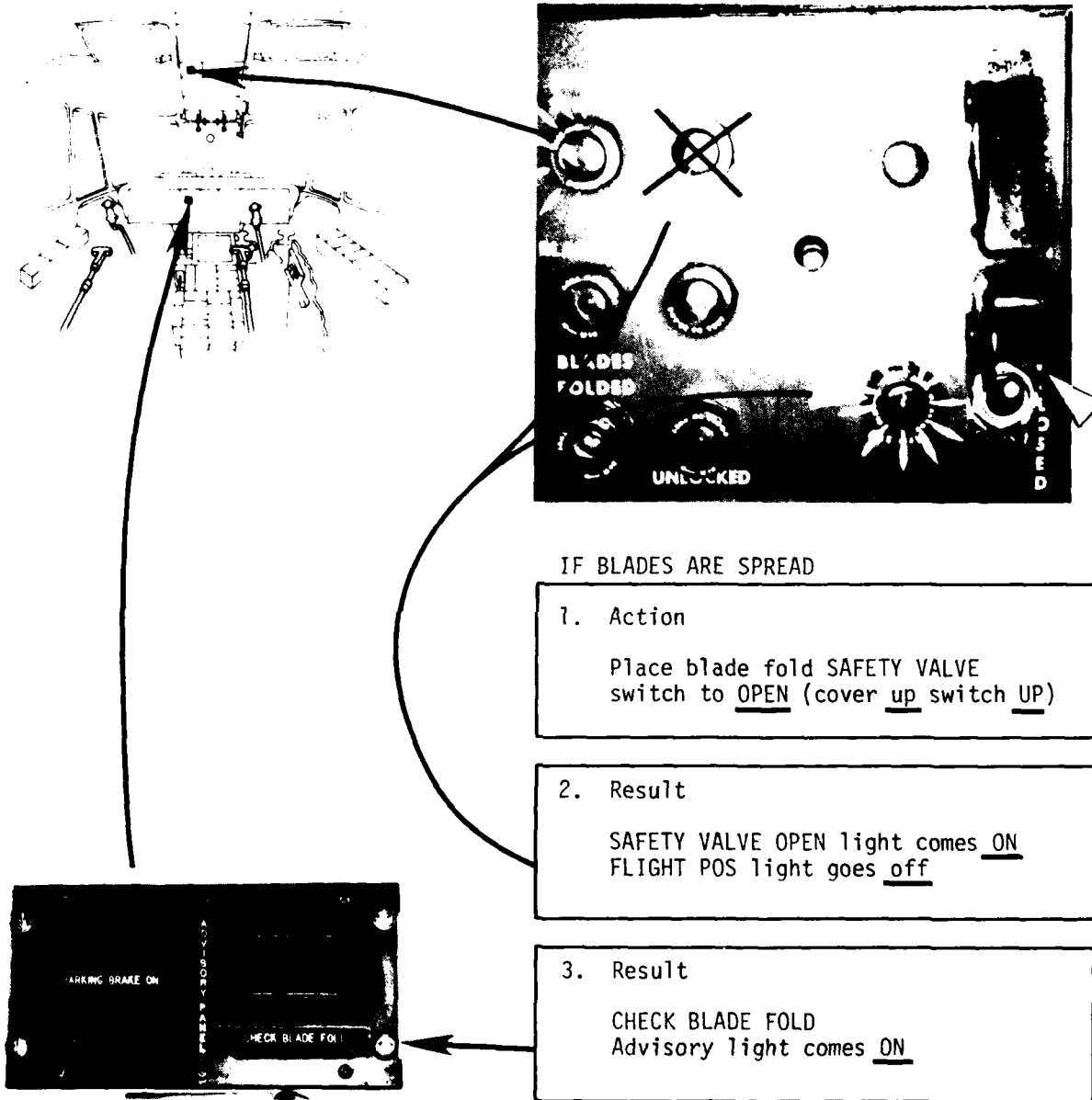
AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK

Purpose:

To insure proper operation of the primary servo 1000 PSI switch which prevents securing the AUX if PRI pressure is less than 1000 PSI.

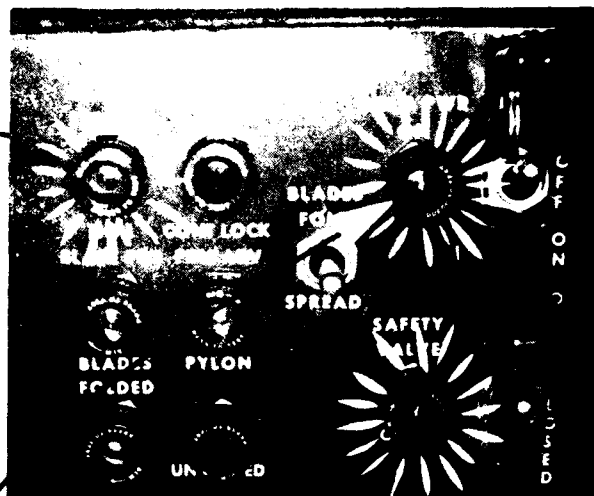


GO TO PAPER MOCK-UP : STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK

Purpose:

To insure proper operation of the primary servo 1000 PSI switch which prevents securing the AUX if PRI pressure is less than 1000 PSI.



IF BLADES ARE SPREAD

4. Action

Place blade fold MASTER switch to ON (cover up switch UP)

5. Result

FOLD POWER ON light comes ON

6. Result

PRI HYD gage goes to 0 PSI

7. Result

Two CAUTION lights ON.
(PRI SERVO PRESS CAUTION light comes ON)

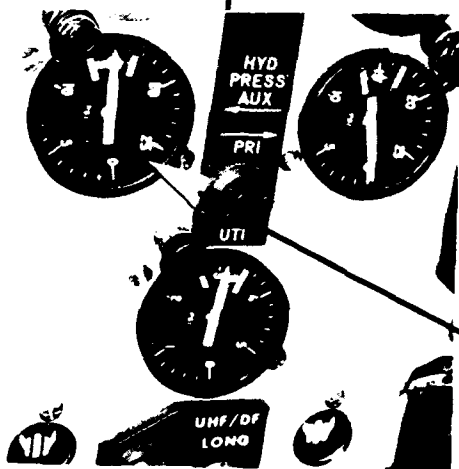
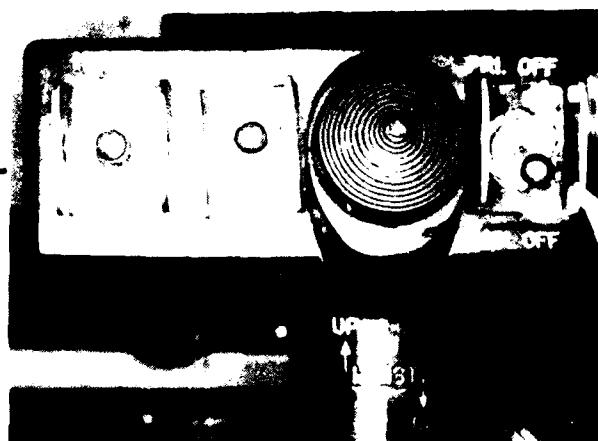
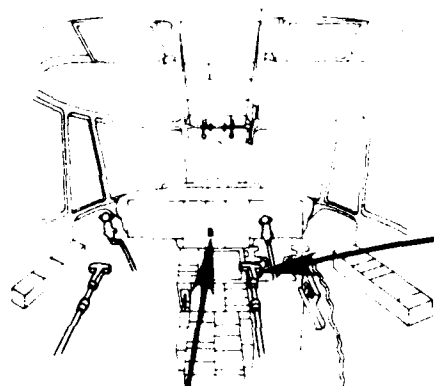


GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK

Purpose:

To insure proper operation of the primary servo 1000 PSI switch which prevents securing the AUX if PRI pressure is less than 1000 PSI.



IF BLADES ARE SPREAD

8. Action

Place servo switch to AUX OFF (AFT)

9. Result

AUX HYD pressure should remain at normal range (1300 to 1600 PSI)

10. IF

AUX HYD pressure drops
THEN

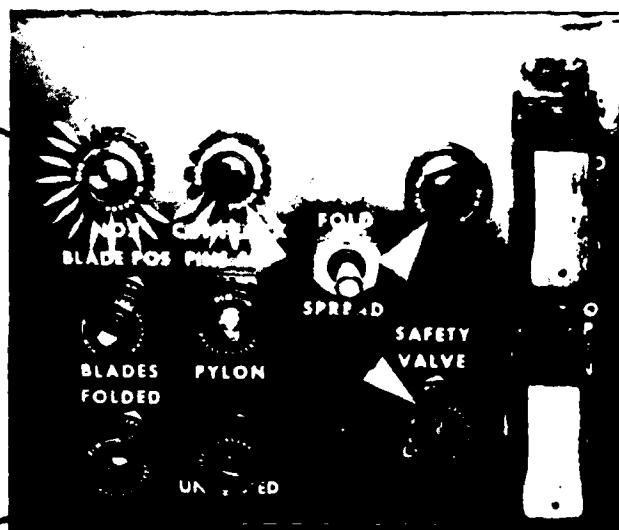
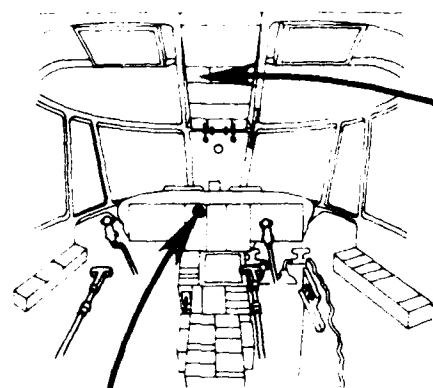
Primary servo 1000 PSI switch is defective. Aircraft is DOWN

11. Action

Place servo switch to center position

GO TO PAPER MOCK-UP • STEP THROUGH ITEM • TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK



IF BLADES ARE SPREAD

12. Action

Place Blade Fold SAFETY VALVE switch to CLOSED (switch DOWN cover DOWN)

13. Action

Place Blade Fold MASTER switch to OFF (switch DOWN, cover DOWN)

14. Result

Fold PWR ON light goes off
SAFETY VALVE OPEN light goes off
FLIGHT POS light comes ON

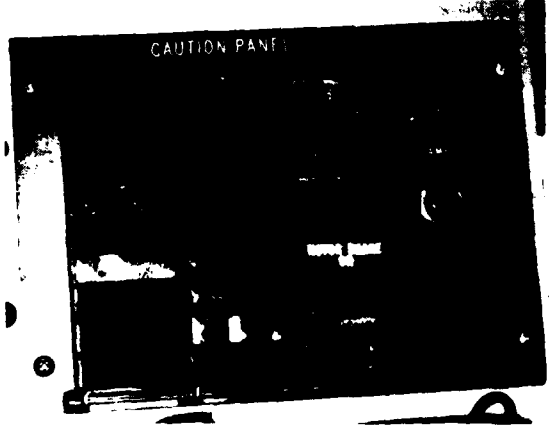
15. Result

PARKING BRAKE ON
Advisory light ON
(CHECK BLADE FOLD light off)



GO TO PAPER MOCK-UP

• STEP THROUGH ITEM
TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE



16. Result

PRI HYD gage reading Normal
(1300 to 1600 PSI)

17. Result
 ROTOR BRAKE ON CAUTION light ON
 (PRI SERVO PRESS
 CAUTION light goes out)

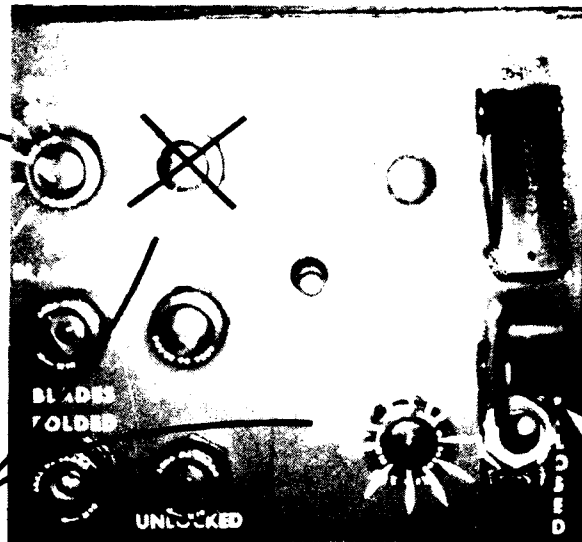
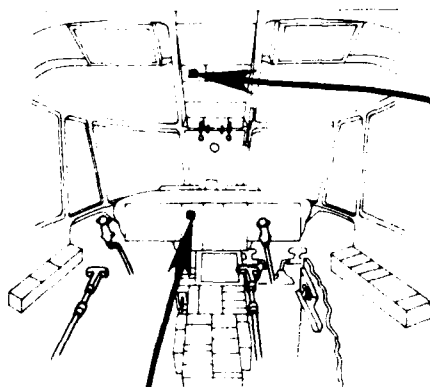
18. Voice Response
"CHECK"

GO TO PAPER MOCK-UP • STEP THROUGH ITEM
• TOUCH WHERE EACH ACTION AND RESPONSE TAKES PLACE

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK

EXERCISE

- FILL IN THE BLANKS
- WRITE ON SCRATCH PAPER — NOT THE BOOK
- REFER BACK TO CHECK YOUR ANSWERS



IF BLADES ARE SPREAD

1. Action

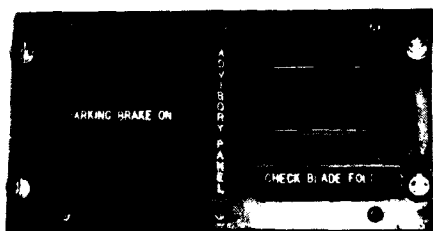
Place blade fold SAFETY VALVE switch to ____ (cover ____ switch ____)

2. Result

SAFETY VALVE OPEN light comes ____
FLIGHT POS light goes ____

3. Result

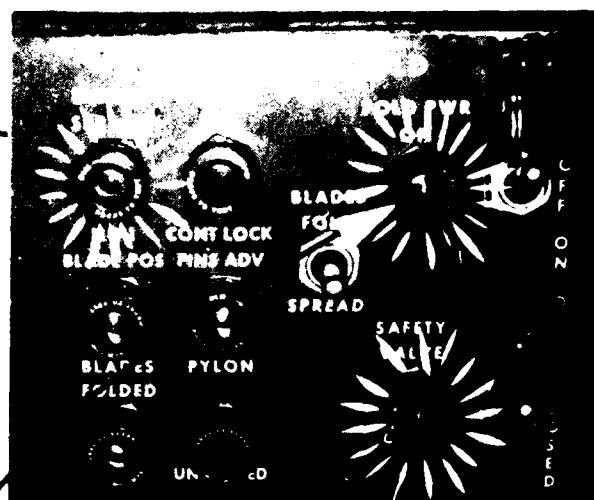
CHECK BLADE FOLD
Advisory light comes ____



AGAIN, GO TO PAPER MOCK-UP

- PRACTICE ITEM
- KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK



IF BLADES ARE SPREAD

4. Action

Place blade fold MASTER switch to
_ (cover _ switch _)

5. Result

FOLD POWER ON
light comes _

6. Result

PRI HYD gage goes to _ PSI

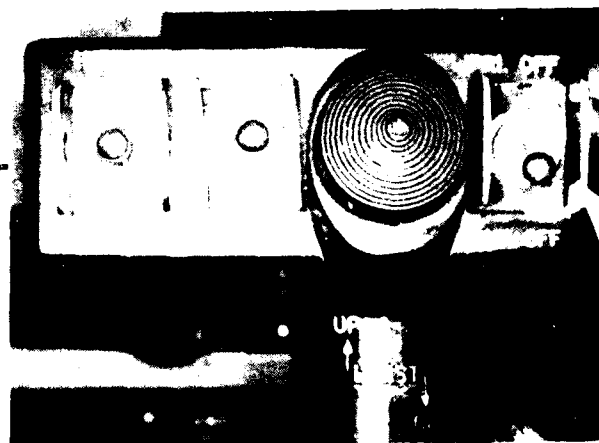
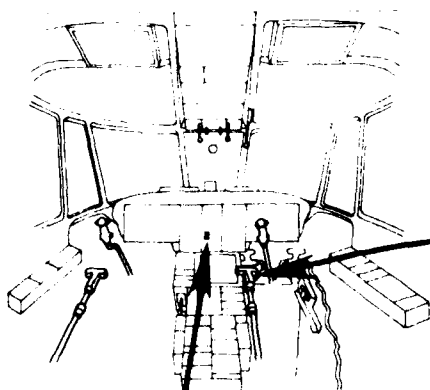
7. Result

Two CAUTION lights ON.
(PRI SERVO PRESS CAUTION
light comes _)

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK



IF BLADES ARE SPREAD

8. Action

Place servo switch to ____ ()

9. Result

AUX HYD pressure should remain at normal range (____ to ____ PSI)

10. IF
AUX HYD pressure drops
THEN

____ servo 1000 PSI switch is defective. Aircraft is ____

11. Action

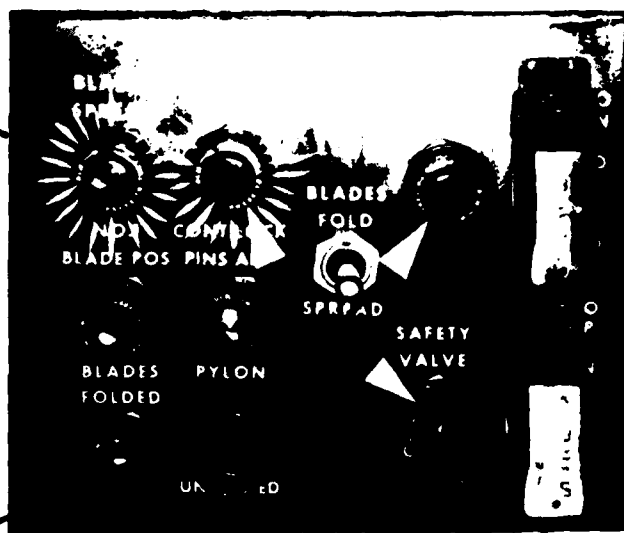
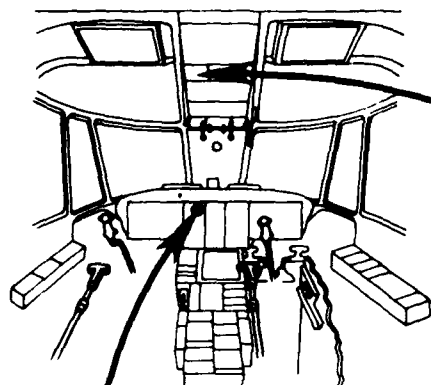
Place servo switch to ____ position



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK



IF BLADES ARE SPREAD

12. Action

Place Blade Fold SAFETY VALVE switch to ____ (switch ____ cover ____)

13. Action

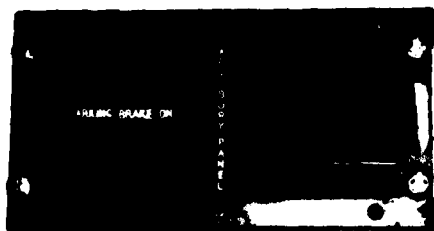
Place Blade Fold MASTER switch to ____ (switch ____, cover ____)

14. Result

Fold PWR ON light goes ____
SAFETY VALVE OPEN light goes ____
FLIGHT POS light comes ____

15. Result

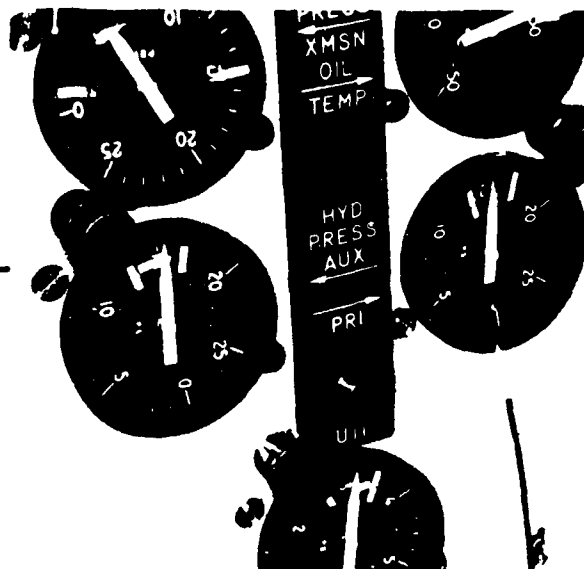
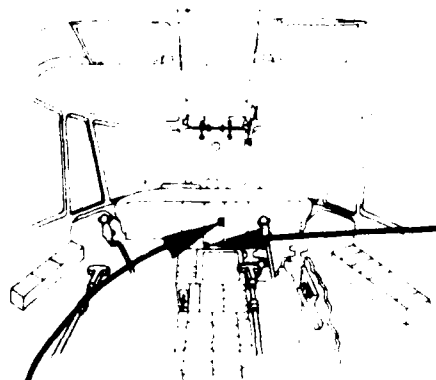
PARKING BRAKE ____
Advisory light ____
(CHECK BLADE FOLD light ____)



AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU RECALL WHAT TO DO WITHOUT HESITATING

NORMAL START CHECKLIST ITEM NO. 32. Servo Sensor CHECK



IF BLADES ARE SPREAD

16. Result

PRI HYD gage reading Normal
(___ to ___ PSI)

17. Result

ROTOR BRAKE ON CAUTION light ___
(PRI SERVO PRESS
CAUTION light goes ___)

18. Voice Response

AGAIN, GO TO PAPER MOCK-UP

● PRACTICE ITEM ● KEEP PRACTICING UNTIL YOU
RECALL WHAT TO DO WITHOUT HESITATING

SH-3D/H NORMAL START CHECKLIST ITEM NO. 27 through ITEM NO. 32

Directions:

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST

State in your own words the Purpose

Go through each step in the ITEM mentally

Touch the location on the PAPER MOCKUP as you go through the steps

State the VOICE RESPONSE at completion of the steps

PAGES 281 THROUGH 302 INTENTIONALLY LEFT BLANK

SH-3D/H NORMAL START CHECKLIST ITEM NO. 1 through ITEM 32

Using the SH-3 PAPER MOCKUP and the NORMAL START CHECKLIST

Go through EACH ITEM in the CHECKLIST mentally

Touch the Location for EACH STEP in EACH ITEM as you go through the ITEMS

STATE the VOICE RESPONSE at the completion of EACH ITEM

CONTINUE TO PRACTICE UNTIL YOU CAN PERFORM THE CHECKLIST
WITHOUT ERROR OR HESITATION

AFTER YOU HAVE REACHED CRITERION

CONGRATULATIONS: You are now ready to perform the CHECKLIST

in the COCKPIT PROCEDURES TRAINER. GOOD LUCK

Technical Memorandum 82-1

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